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MONTHLY REPORT

OF

THE DEPARTMENT OF AGRICULTURE,

FOR

AUGUST AND SEPTEMBER, 1867.

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MONTHLY REPORT.

WASHINGTON, D. C., *September* 20, 1867.

SIR: I submit herewith for publication a report of returns to the Statistical Division, showing the condition of farm crops in the several States on the first days of August and September, respectively; together with numerous extracts from the correspondence of the division, embracing various matters pertaining to the interests of agriculture, and very full meteorological tables for the months of July and August.

J. R. DODGE, *Statistician.*

Hon. J. W. STOKES,
Acting Commissioner.

CONDITION OF THE CROPS.

The crop tables for August give the general averages for the several States, made up from the approximate estimates of our correspondents of the quantity of the crops then harvested, as compared with those of 1866, together with the current condition of the growing crops at the date of return; while the tables for September pertain chiefly to the state of the fall crops, in relation to which more definite information will be given in succeeding reports.

Wheat.—From the August returns it will be observed that there is a uniform reduction in the general averages of wheat, as compared with the July figures, and that the September estimates of condition when harvested, as compared with the crops of 1866, drop the figures somewhat lower in a number of the States—attributable, to a considerable extent, to bad weather while harvesting, as well as to the fact that in some sections the grain was found to be shrivelled, and threshed out less to the acre than anticipated. The leading wheat-growing States report the following percentage of increase at the close of the harvest: Ohio, 130 per cent.; Indiana, 50; Michigan, 33; Wisconsin, 17; Minnesota, 25; Illinois, 15; Iowa, 20; Missouri, 40; Kentucky, 34; West Virginia, 60; Virginia, 50; Tennessee, 40; Georgia, 80; Arkansas, 45; New York, 14, and Pennsylvania, 40; while only Kansas and Texas show a falling off from last year, when the crops in those States were very large. The returns due October 1 will enable us to estimate with a greater degree of accuracy the amount of this great crop for the current year.

Corn.—The prospect for a corn crop continues to improve, and if the frost holds off the general crop may be a fair one. While a number of the States return low estimates, others, particularly the southern States, show marked improvement over the yield of last year. Georgia promises to double her crop of 1866; Alabama reports an increase of 75 per cent.; Mississippi, 80; Tennessee, 21; Louisiana, 40; South Carolina, 54; and Arkansas, 100 per cent. Ohio falls 30 per cent. behind last year, estimating from condition on 1st September; Indiana, 17; Illinois, 14; Kentucky, 28; West Virginia, 15; and Virginia, 10.

Cotton.—The cotton crop promised well up to the 1st instant, when the worms were making their appearance, and much apprehension was then felt in various

sections for the safety of the crop. Under the head of "Extracts from Correspondence," we give notes from the several cotton-growing States. At the date of our returns Georgia promised to yield 53 per cent. beyond her crop of 1866; South Carolina, 50; Alabama, 42; Mississippi, 24; Arkansas, 18, and Tennessee, 9; while Louisiana and Texas show a considerable falling off from last year.

Rye, barley, and oats exhibit no material change from the previous reports, though oats were seriously injured in some sections by the extreme wet weather during the harvest; but generally the crop appears superior to that of last year.

Buckwheat shows an average acreage, with prospect of a fair crop.

Potatoes are rotting badly in many of the large potato-growing States, and the crop will probably fall below the yield of last year.

Sugar cane and sorghum.—The leading sugar-producing States show a fair increase over the crops of last year. Sorghum is evidently on the decline in most of the States, without sufficient reason. The crop now growing is in good condition.

Apples and peaches.—In a few of the States the apple crop promises well, but in a majority the yield will be from 10 to 40 per cent. below the crop of 1866. Peaches were much injured by the rains of July and August, and orchards which promised well early in the season have proved entire failures. With the exception of a few States, the crop is grown for home consumption or local markets, which fact, together with the irregularity of the yield in different seasons, renders it difficult to reduce the various estimates to averages for the States, though we include the figures.

Hay shows an increase in almost every State, and quite large in many of them, Pennsylvania returning an increase of 50 per cent.; New York, 24; Michigan, Wisconsin, and Illinois, 28; Indiana, 26; indeed, the general average will reach from 25 to 30 per cent. above the crop of 1866.

The wool clip of 1867 will probably fall from five to ten per cent. short of the crop of last year, attributable to the severe weather of last winter and the consequent exposure and destruction of a large number of sheep.

Table showing the condition of the crops, &c., on the first day of August, 1867

STATES.	WHEAT.			RYE.	BARLEY.	OATS.	CORN.	BUCKWHEAT.	
	Quantity of winter wheat, compared with 1866.	Quantity of spring wheat, compared with 1866.	Total quantity, taking winter and spring wheat together, compared with 1866.	Total quantity of rye, compared with 1866.	Condition of barley, compared with 1866.	Condition of oats, compared with 1866.	Average condition of corn on the 1st day of August, compared with 1866.	Average acreage sown, compared with last year.	Average condition on the 1st day of August, compared with last year.
Maine	10	10.7	10.8	9.9	9.8	10.2	10	10.1	10
New Hampshire	9.8	11.3	10.6	10	10.3	11.1	9.3	10.2	10.6
Vermont	10.5	11.5	11	10	9.7	9.4	9.4	12.4	9.8
Massachusetts	11.	11	11	10.5	10.5	10	10.8	10.1	10.2
Rhode Island	.....	.....	.....	10	10	10	10	.....	.....
Connecticut	11	10	10.5	11.6	10.8	11	10.5	11	10
New York	11.9	9.7	11.4	10.6	9.4	9.4	10.2	11.1	10.1
New Jersey	12	10	12	11	11	11.3	9.8	10.2	10.6
Pennsylvania	14	10.5	14	12	11	11.1	9.6	10.3	9.6
Delaware	13	.....	13	10	14	11.5	10	10	12
Maryland	11.5	.....	11.5	10.2	10	9.8	9	9.5	10
Virginia	15	11	15	11.8	9.5	9.9	9	9.4	9.1
North Carolina	13	13	13	11.3	13	11.4	8.3	9.5	9.1
South Carolina	13	11.8	13.2	11.5	10	12	12.7	10	10
Georgia	18	12	18.1	11	11.9	13	20	10.6	11
Florida	.....	.....	.....	7.5	.....	7.5	12.5	.....	.....
Alabama	15	10	15	10.5	11	14	20	15	15
Mississippi	10.2	10	10.2	9.8	10	11	20	10	10
Louisiana	10	.....	11	10	10	11.5	14	.....	.....
Texas	5.8	5.6	5.8	7.9	7.4	8.3	13	8	10
Arkansas	14.5	10.4	14.5	11	10	14	17	12	12
Tennessee	14	12	14	10.2	10	8.9	13	10.4	10.3
West Virginia	16	12	16	12.1	11.1	10.9	9	9.2	9.2
Kentucky	13.5	9.8	13.4	10.8	10.3	9.8	9.8	10.2	10
Missouri	14	12	14.3	11.8	10.4	12.5	10.5	11.3	10.5
Illinois	10.6	11.5	10.7	9.8	10.2	11.5	9.5	9.7	9.4
Indiana	15	11	15	11	10.7	11	9.3	9.7	9.5
Ohio	22.5	14	23	13.2	11.5	11	8.2	8.2	9
Michigan	13	11.2	13.3	10	10	10.1	10.2	10	10
Wisconsin	11.5	12	11.7	10.7	11.5	12.1	10.6	10	9.9
Minnesota	10.2	12.5	12.5	10.3	10.8	12.6	9.7	10.4	10.2
Iowa	10.4	12.3	12	9.8	10.8	11.8	10	10.8	10.5
Kansas	9	10.6	9.4	9.8	10.3	10.5	12.6	12	10.8
Nebraska	7.1	15	11.5	10.4	9	10.1	11.6	13	11.7

Condition of the crops, &c., on the first day of August, 1867—Continued.

STATES.	POTATOES.	BEANS.	SORGHUM.	HAY.				
	Average condition of potatoes on the 1st day of August, compared with 1866.	Average condition August 1, compared with last year.	Average condition August 1, compared with last year.	Quantity of timothy, compared with last year.	Average condition of timothy when harvested.	Quantity of clover, compared with last year.	Average condition of clover, when harvested.	Quantity of hay of all kinds, compared with last year.
Maine	10.3	10.4	10	13	10.9	12.8	10.9	13.1
New Hampshire	10	10.6	8	11.3	11	12.1	11	13
Vermont	10	10.1	.....	12	11.7	10.5	10.8	11.5
Massachusetts	10.9	10.2	12	12.7	10.5	13	11	13.8
Rhode Island	10	10	.....	12.6	9	13.3	8.6	13.3
Connecticut	10.8	10.4	9.5	12.8	10.8	13	10.6	13.5
New York	9.7	10.1	10	11.5	10.1	11.5	10.5	12.4
New Jersey	11.2	9.7	9.6	12.5	10.8	12	10.5	12.3
Pennsylvania	10.2	9.7	9.4	13	11.5	11.7	11.3	15
Delaware	13	11	10	13	10	12.5	8.5	15.5
Maryland	9.8	10	9.2	11	8.3	11.5	9.1	11.1
Virginia	9.9	9.2	7.6	11.2	10.2	11.4	10	12
North Carolina	11	10	9	10.5	10.7	11.3	11.5	11.4
South Carolina	11.5	10.5	9.6	10	10	11	11	10.3
Georgia	12	13	12	12	11	13.3	12	13.2
Florida	10.1	4	11	12	12	.....	.....	12.6
Alabama	11	12.9	12	13	20	11.3	11.4	13.7
Mississippi	12.8	11	9.5	10	10	11	10	13.4
Louisiana	10.5	.....	11.6	.....	.....	.....	.....	7.5
Texas	11	10	10.5	10	12	15	12	11.5
Arkansas	11.8	15	13	11	11.2	10	9.8	13
Tennessee	9.5	10.8	9.7	11.2	10.3	11.6	10.5	12
West Virginia	10.1	10	8.7	11.9	11.4	11.4	11.4	12.4
Kentucky	9.5	9.7	9.3	10.9	11	10.5	10.6	11.6
Missouri	11.7	10.8	10	12.8	11.9	11.1	11.3	14
Illinois	8.9	9.7	8.4	12	12	10.7	11.5	12.8
Indiana	9.5	9.7	8.3	12	12.3	10.6	11.9	12.6
Ohio	8.7	9.5	7.9	11.8	12	11.8	11.8	13
Michigan	9.9	10.1	9	11.7	11.5	11.6	11	12.8
Wisconsin	10.2	10.3	9.3	11.9	12.3	11.6	12.1	12.8
Minnesota	10.1	10.7	9.4	12.6	12.6	12.6	12.2	11.9
Iowa	11.9	10.4	8.9	11.8	11.3	11.2	11	12.3
Kansas	12.2	10.6	10.3	10.1	10	9.6	9.7	13
Nebraska	13	10.5	10.4	10.7	10.6	12.5	10	14

Condition of the crops, &c., on the first day of August, 1867—Continued.

STATES.	PASTURES. Average condition August 1, compared with last year.	TOBACCO. Average condition August 1, compared with last year.	COTTON. Average condition August 1, compared with last year.	SUGAR-CANE. (Not sorghum.) Average condition August 1, compared with last year.	APPLES. Average condition August 1, compared with last year.	PEACHES. Average condition August 1, compared with last year.	GRAPES. Average condition August 1, compared with last year.
Maine	12.7	.....	.....	.....	8.1	11.6	9.9
New Hampshire	12.5	.....	.....	.....	9	12	10.7
Vermont	11.5	10	.....	.....	10.5	.....	11.5
Massachusetts	12.2	11.5	.....	.....	9	20	10.2
Rhode Island	13.6	9	.....	.....	8.3	12	9.3
Connecticut	13.2	10.2	10	.....	9.7	10.7	10.8
New York	11.1	9.8	.....	.....	9.3	9	10.1
New Jersey	12.5	.....	.....	.....	8.9	18	10.7
Pennsylvania	10.9	9.4	.....	.....	8.5	12	9.8
Delaware	13	.....	.....	.....	9	30	9.5
Maryland	10.5	10	.....	.....	8.8	13.7	9.3
Virginia	10.3	9	7	.....	11.5	17	11
North Carolina	10.3	9	8.5	.....	10	13	10.5
South Carolina	12	10	11.7	10	9	9	9.2
Georgia	14.5	12	14.5	10.3	7.7	8.7	9.5
Florida	11	3	9.7	10.4	.....	10	6.5
Alabama	15	10.4	15	10.7	5.9	5.6	8.7
Mississippi	12.5	11.3	13	10	5.8	3	7.1
Louisiana	11	8	8	12.2	9.2	3.5	9.7
Texas	12	10.4	8	10	11.2	3.1	8.7
Arkansas	15	11	9	.....	10	8.6	13
Tennessee	12.2	9.7	11	.....	4.3	4	8.5
West Virginia	10.2	9.1	.....	.....	12	17	11
Kentucky	10.7	8.6	9	.....	12.2	13.5	11
Missouri	11.9	10.2	10.4	.....	11	12.7	13
Illinois	10	8.9	8.6	.....	9.2	11.5	10
Indiana	9.6	9.1	.....	.....	10.6	17	13
Ohio	10	8.4	.....	.....	7.6	20	11
Michigan	10.2	10	.....	.....	10.4	17	11.4
Wisconsin	11.3	10	.....	.....	12	.....	11.2
Minnesota	12.3	10	.....	.....	10.1	.....	10.8
Iowa	11.3	9.5	.....	.....	11	10.9	11.6
Kansas	12.7	10.4	10.1	.....	12.3	12	11.5
Nebrask	12.6	9.8	.....	.....	12	20	11.9

Table showing the condition of the crops, &c., on the first day of September, 1867.

STATES	WHEAT. Condition when harvested, as compared with 1866.	RYE. Condition when harvested, as compared with 1866.	BARLEY. Condition when harvested, as compared with 1866.	OATS. Condition when harvested, as compared with 1866.	CORN. Condition of corn September 1, 1867, as compared with last year.	BUCKWHEAT. Condition when harvested, as compared with 1866.	BEANS. Condition of crop September 1, 1867, as compared with last year.	SORGHUM. Condition of crop September 1, 1867.	POTATOES. Condition of crop September 1, 1867.	TOBACCO. Condition of crop September 1, 1867, as compared with last year.
Maine	10	10.1	9.2	9.1	10.5	9.9	9.4	------	8.4	10
New Hampshire	10.7	9.9	9.8	10.5	10	10.2	9.7	------	8.6	8
Vermont	10.7	10.4	10.2	9.4	11.1	10.3	10	------	11.1	10
Massachusetts	10	10.1	10	9.8	10.5	10.6	8	12	7.2	9
Rhode Island	9	8.5	9	9	9	8.9	7.6	------	6.6	10
Connecticut	10.8	11	9.7	10	10.4	10.2	9.6	8.5	7.4	9.6
New York	11.4	10.5	9.5	9.4	10.3	9.9	10.6	9.9	9.1	9.4
New Jersey	12	10.2	9.8	8.6	10.5	8.7	10.2	8.6	7.6	10
Pennsylvania	14	11.2	10.2	10.4	9.3	9.6	9.9	8.5	9.3	9.4
Delaware	15	------	------	14	8	------	12	10	------	------
Maryland	11	9.9	10	10	10.7	9.8	10.1	9.8	9.7	9.3
Virginia	13.7	10.4	10	9.4	9	8.6	9.5	7.5	10.1	8
North Carolina	12.4	10.1	10.5	11.2	9.2	8.9	9.5	9.3	10.6	9.3
South Carolina	14	11.7	12	13	15.4	10	12	10	12	15
Georgia	18.5	12.7	11.9	14	20	10	12.7	10.3	12	12.7
Florida	------	8	6	10.8	12.3	------	8	7	11	12
Alabama	17	12	10.8	13.8	17.5	12.7	11.3	10	12.6	9.5
Mississippi	13	9.4	------	11.2	18	10	10.4	8	11.6	10
Louisiana	12	10	------	12	14	------	10	------	9	8
Texas	6.5	8.2	5	9.8	12.8	------	10.2	10.8	10.7	9.8
Arkansas	13	10.4	11.4	12.5	20	------	16	14	12	12.3
Tennessee	13.2	10.3	10.1	8.9	12.1	9.6	10.2	9.7	9.3	9.2
West Virginia	15	12.1	11.1	11	8.5	9.2	9.4	9	9.6	8.8
Kentucky	13	10.7	10.4	9	7.2	8.3	9.1	8	8.4	7.6
Missouri	13	11.5	10.1	12	10.4	9.9	9.4	10.2	10.5	11.3
Illinois	11.5	10.5	11	11.6	8.6	9	9.5	7.8	8.3	8.9
Indiana	12.7	11.3	10.8	10.9	8.3	8.8	9.7	7.6	8.1	8.9
Ohio	21	12.7	11.6	11	7	7.8	8.7	6.8	7.7	7.7
Michigan	11.5	10.7	10.2	10.7	10.3	9	10.4	8.7	9.2	9.1
Wisconsin	13	11.5	12	12	11	9.2	10.4	11.1	9	9.1
Minnesota	11.5	11	11.3	13	12	10.6	10.8	11.4	10.5	10.3
Iowa	11	11	10.9	11.4	10	9.8	10	9.3	10	9.2
Kansas	9.6	10	9.9	10.2	12	10.9	10.6	11	12	10
Nebraska	9.4	9.8	9.8	11	11.4	9.3	10.6	10	12.5	10.4

Condition of the crops, &c., on the first day of September, 1867—Continued.

STATES.	COTTON.	SUGAR-CANE. (not sorghum.)	APPLES.	PEACH'S	GRAPES	HOPS.		STOCK HOGS.		WOOL.
	Condition of crop September 1, 1867, as compared with last year.	Condition of crop September 1, 1867, as compared with last year.	Prospect of crop, as compared with last year.	Amount of crop, compared with last year.	Condition of grapes, September 1, 1867, as compared with last year.	Average of hops, as compared with last year.	Condition of crop September 1, 1867, as compared with last year.	Average number for fattening, as compared with last year.	Average condition of same as to weight and size.	Average weight of fleece, as compared with 1866.
Maine	.....	.....	7	.....	10.7	11	10.5	11	10	9.4
New Hampshire	.....	.....	9	11	10	12	11	11	9.7	9.2
Vermont	.....	.....	10.3	.....	12.5	9.5	9.5	11	9.8	9.7
Massachusetts	.....	.....	9	15.2	9.3	8	9.5	10	10	9.2
Rhode Island	.....	.....	6.5	10.3	10.6	.....	.....	10	9.6	9.5
Connecticut	.....	.....	8.7	10.5	11	10	10	10.4	10.4	9.8
New York	.....	.....	8.2	9.2	9.6	9.2	8.7	10.2	10.1	9.3
New Jersey	.....	.....	5	25.4	9.6	10	9.5	10.5	10.2	9.6
Pennsylvania	.....	.....	7.7	14.9	9.8	9.4	9.5	11	10.1	9.7
Delaware	.....	.....	12	30	10	.....	.....	12	10	10
Maryland	.....	.....	8.1	14.5	10.1	10	10	10.3	10.3	9.6
Virginia	8.6	.....	13.6	20.5	11.4	10	10	9.9	10.2	8.8
North Carolina	10.1	9	10.9	30.2	10.2	10	10	9.5	10.1	9.7
South Carolina	15	10	11	14.2	10	10	10	6.9	11	9.3
Georgia	15.3	12.1	7.5	8.2	11.7	11	8.3	9.8	11.3	9.4
Florida	10	10.8	6	11.8	9	17.5	8	7.7	11	8.2
Alabama	14.2	10.3	6.8	6.6	8.9	10	10	8.8	10.4	9.5
Mississippi	12.4	.....	7.3	5.5	7.2	5.5	10	9.1	8.7	9.5
Louisiana	7.4	12	10	.....	8	.....	.....	8	8.6	9.3
Texas	6.5	11.5	6.7	1.5	12	.....	.....	10.1	10.3	9
Arkansas	11.8	13.5	9.6	7.1	15	12	20	16.3	12.4	10.8
Tennessee	10.9	.....	3.9	5.9	8.4	10	9.5	10.6	9.8	9.8
West Virginia	.....	.....	13	20.3	14.2	9.7	10.3	11.5	10.5	10.1
Kentucky	8.3	6.3	12.5	24.5	9.8	9.1	9.1	10	10.2	9.5
Missouri	10.1	9.3	10.8	19.5	11.6	9.8	10.5	13.8	10.8	10
Illinois	10.8	.....	9.6	19.4	10.8	10.5	9.3	10.7	9.8	9.5
Indiana	.....	.....	10.6	34.1	14.1	10.2	10.4	10.8	9.8	9.8
Ohio	.....	.....	8.2	20	11.6	9	8.7	11.1	9.7	9.3
Michigan	.....	.....	10.2	32.6	12.4	9.6	7.5	11.4	9.9	9.1
Wisconsin	.....	.....	14.9	.....	11.6	13.6	12	11	9.4	9.1
Minnesota	.....	.....	11	7.5	10.5	12.6	11.5	12	10.1	9.3
Iowa	.....	.....	11	28.2	12	10.5	9.5	9.9	9	9.1
Kansas	9.3	.....	12.4	17	11.8	11.1	10	12.4	10.7	9.2
Nebraska	.....	.....	12.7	20	12.1	10.5	10.3	13	11.3	10.1

THE PACIFIC STATES AND THE TERRITORIES.

Returns from the Pacific States and Territories, while too limited to warrant a general estimate of the leading crops, indicate the following figures, using 10 as the standard for last year, as in the preceding tables:

California.—Wheat, 11.5; rye, 10; barley, 9.5; oats, 9; corn, 9.8; hay, 10; potatoes, 9.5.

Oregon.—Wheat, 10; rye, 10; barley, 8; oats, 9; corn, 11; hay, 8; potatoes, 9.

Nevada.—Wheat, 15; rye, 10; barley, 10; oats, 10; corn, 10.2; hay, 15; potatoes, 10.

Washington Territory—Wheat, 9.8; barley, 10; oats, 10.4; corn, 9.8; hay, 8; potatoes, 11.2.

Dakota Territory.—Wheat, 9; rye, 10; barley, 10; oats, 10; corn, 8; hay, 10; potatoes, 8.

Colorado Territory.—Wheat, 12; rye, 10; barley, 10; oats, 12; corn, 11; hay, 12; potatoes, 11.

Utah Territory.—Wheat, 10.5; rye, 10; barley, 10; oats, 10; corn, 9; hay, 11; potatoes, 11.

EXTRACTS FROM CORRESPONDENCE.

EARLY BOUGHTON OR TAPPAHANNOCK WHEAT.

The following extracts show the success of the Early Boughton or Tappahannock wheat in the several localities mentioned:

Giles county, Tennessee.—The Tappahannock wheat did not arrive until the 9th of October, was sown on the 10th, and ripened two weeks before the other, and yields all of one-fourth more of excellent A No. 1 wheat. I hope and believe it will prove a boon to our section.

Franklin county, North Carolina.—Robert Perry, of this county, seeded two and a half pounds of Tappahannock wheat, received from the Department of Agriculture, on a piece of land 20 by 20 yards, and realized eighty pounds from it. It was seeded early in November, on land not well prepared for a favorable result, and was injured by rains. It weighed sixty-two and a half pounds to the measured bushel. It is eight or ten days earlier than the wheat in cultivation here.

Baltimore county, Maryland.—The Tappahannock wheat has done exceedingly well, ripened early, and I could not see one head injured by the midge. The Arnautka spring wheat is injured by the midge, probably owing to late seeding. About one-fourth is destroyed. This wheat has a remarkably fine appearance. I will give it another trial.

Clarke county, Virginia.—It is the practice here to sow every kind of smooth wheat later than the bearded varieties, the smooth wheats being more obnoxious to the Hessian fly. I think the injury the white wheat sustained was due to late sowing; having seen some fields of the Boughton wheat seeded in September, which made very heavy crops of fine quality.

Windsor county, Vermont.—On the 1st day of October, 1866, I sowed, on alluvial soil, one quart of Early Boughton wheat. On the 6th instant I reaped it, and on the 17th had it threshed and cleaned, and had ten quarts very nice and good berry. But for an injury last fall from cattle, I should have had twelve quarts, which is, allowing one and a fourth bushels of seed to the acre, above an average for this State, and in quality superior to any I have seen.

Columbia county, Pennsylvania.—I received from the Department of Agri-

culture last fall one quart of Early Boughton wheat, which I sowed September 20, broadcast, on about one-twentieth of an acre of ground from which I had taken a crop of early potatoes. It ripened one week earlier than other varieties, and the yield was eighty-two pounds clean, screened wheat, of a very superior quality. If it continues to do anything like as well, I shall consider it a valuable acquisition.

Washtenaw county, Michigan.—The Tappahannock wheat sent me last fall was sowed about the 1st of October. It ripened nearly three weeks earlier than the Treadwell, sowed at the same time and on the same soil. From the quart sent me I have raised seventy-four pounds of good, clean wheat, which will weigh over sixty pounds per bushel.

Lenawee county, Michigan.—I sowed one quart of Boughton wheat on the 29th of September, 1866, and threshed out one bushel of very plump, white wheat from the quart sowed.

ARNAUTKA SPRING WHEAT.

New London county, Connecticut.—I received from the Department of Agriculture, in the spring of 1867, one package of Arnautka hard spring wheat, which was sown the 13th of April in drills. One part was put upon soil inclined to a sandy loam, exhausted by previous cropping. The green sward, having been ploughed the fall previous, was sparingly manured with horse manure and ashes ploughed in, and a little hen manure scattered along in the drills near the grain, and the weeds afterward kept down by hoeing. The other parcel was put upon a more compact soil, in better condition, with no manure save a little in the hills, as the other, and received no hoeing. That on the more sandy soil did the best. Both did well, and were ready to harvest by the first of August, and, by estimation, yielded twenty bushels to the acre of very nice-looking grain, and very free from smut. It is a valuable grain for this locality.

Clinton county, Indiana.—Last spring I received from the Department of Agriculture two packages of Arnantka, or hard spring wheat. This I sowed broadcast on common clay land, at the rate of one and a half bushel per acre, on the 16th of April. The season was backward and very unfavorable; the native wheat in this locality made only about one-fourth of an average yield. I harvested the Arnautka wheat on the 20th day of July; it produced at the rate of twenty bushels per acre, being considerably more than an average yield for our native wheat. It was not attacked by rust, weevil, or fly, and produced rather larger berry than the sample received from the department. It is pronounced by wheat-growers in this neighborhood a success.

THE SANDOMIRKA WHEAT.

Jefferson county, New York.—I received in 1866 from your department a small sack of Sandomirka winter wheat, imported from Odessa. I prepared five and a half square rods of ground which had never been manured, and had raised three crops after being cleared up from a forest. I sowed the wheat in drills, two and a half inches deep, the last of August, 1866. It stood the winter through without any injury, and matured and ripened so that I harvested it on the last day of July, 1867. The product was forty-seven and a quarter pounds of fine, plump wheat. The weevil did it some injury, but nothing serious. I attribute the injury of the weevil more to the small space covered than to the kind of wheat. The spring wheat usually found in this country was quite as much injured by the weevil as this Sandomirka wheat. From my experience thus far, it seems to be well adapted to our soil and climate, and preferable to our common spring wheat.

THE COTTON CROP.

We give a few extracts from letters of our correspondents in the several cotton States, showing the condition of the crop in their respective districts on the 1st instant:

Edgecomb county, North Carolina.—Last year the cotton crop of this county was something over sixteen thousand bales. I think this year, with fully one-fifth more land planted, the crop will not exceed that of last year.

York county, South Carolina.—Cotton was but little injured by the drought, and present appearances indicate three times the crop of last year. But the weather just now is entirely too hot for cotton; the bottom crop may rot.

Butler county, Georgia.—On the 1st of August cotton promised a most abundant yield; but it has rained almost every day during the month, which has greatly damaged the crop. This being the principal month for making cotton, the crop will not be as large as was anticipated. There is also some complaint of the "boll-worm;" and, in a few instances, rust has damaged the crop. With all this, however, the crop will almost certainly be double that of last year, and, should the weather be entirely suitable the balance of the cotton making season, it will exceed the above amount.

Jackson county, Florida.—The common caterpiller is now at work on the cotton plant in this county. Their work will be complete between the 10th and 20th of September; the next crop of worms, if hatched, can do no harm. There will be made and gathered an average of bottom and middle crop, as the plant is now maturing a very full crop of fruit, and, as I am advised, will yield fully fifty per cent. above that of last year.

Cedar Keys, Florida.—The cotton is looking well now and promises a large crop; yet the cotton-worm is making its appearance, and may sweep away the whole crop.

Barbour county, Alabama.—The cotton crop of this county is, up to this time, very promising; true, the rust is apparent in some localities, but I hear no loud complaints of its being extensive; nor is much said of the caterpillar. With a continuance of favorable seasons and a late fall, the yield will be larger than perhaps ever known before. As far as my information extends, the crops in the contiguous counties are, as a general thing, quite promising.

Marion county, Mississippi.—The third generation of the army worm is now at hand, and the destruction of the late cotton is almost certain. The early, or first planting, it is supposed, will yield about one-half of a crop. Incessant rains in the spring prevented the planters from labor; consequently there is a large portion of the cotton late.

Pike county, Mississippi.—Since my last report much discussion has prevailed as to the cotton-worm, about which the most anxious fears have filled the public mind. The report is now current that the third brood of the worm is making its appearance and seriously injuring the cotton. Were it not that the cotton is from two to four weeks later than usual, the worm appearing at this time would do but little injury; but the cotton is now in full growth; and the middle cotton, from which the main crop is derived, is not sufficiently matured to be safe; so, should the worm equal the reports, there will not be more than half a crop; but I am somewhat skeptical as to the worm being in as large numbers as reported. The crop is unusually promising, and could it have escaped the worm and late frost would have doubled that of last year.

Claiborne county, Mississippi.—The third crop of the army worm is now appearing in countless numbers, and as this crop is said to be the devouring crop, much anxiety exists. There is much cotton in condition, as to maturity, that can be almost ruined now by the caterpiller, and all of it must suffer a third should the worm pursue its usual course of devastation.

Tensas county, Louisiana.—The cotton crop is backward, but at this time is making rapid strides towards perfection. I never knew cotton to improve so rapidly before. But the third generation of worms is at hand and at work. Our only hope is that they will not be numerous enough to eat up the crop. It was observed by many that a large proportion of the worms in August fell on the hot ground and died before maturing; and then a good many of them which did go into the chrysalis state were destroyed by the ants. A few planters "wormed their crops"—one man killed as many as three barrels of worms with only a few hands.

Jackson parish, Louisiana.—Since my last report a material change has occurred in the cotton prospect, caused by an unusually early appearance of the caterpiller, on or about the 6th of August, since which time the work of destruction to the cotton plant has gone on rapidly; the result is a diminution of one half in the prospect at present compared with that of the 30th of July.

Lamar County, Texas.—Cotton, if the present prospect holds out, will be more than an average yield.

Union County, Arkansas.—Apprehension is felt in regard to the army worm. Reports are in circulation that they have commenced their work of destruction in the county, but I have not observed them among my crop. A great deal of cotton is very small—a drought of five weeks has not helped it; but if we should have a late fall and no worms, fully as good a crop will be made in this county as ever, for the number of acres in.

Giles County, Tennessee.—Cotton has come out very much since my last report—has an unusual amount of squares, &c. Should the season continue favorable, we expect to make from 1,000 to 1,200 lbs. of seed cotton per acre.

RESOURCES OF OREGON.

Salem, Oregon.—A large oil well is now under process of erection in Salem. One thousand acres of flax were sown last spring in Marion county to supply the oil mill with the seed. Poor as this season has been here, the flax crop is excellent. The price of the seed is $1 50 per bushel in Salem. The oil is worth $1 87½ per gallon, retail rates.

The great discoveries of minerals on our eastern borders are of national importance. The mine of tin lately found on the Owyhee, in Oregon, is rich; and the quantity may be estimated by millions of tons. Iron, lead, coal, salt, silver, gold, and cinnabar are to be found in nearly all the western slope of this coast region. Idaho, Oregon and Washington have a goodly share of this mineral wealth. The rapid approach to our shores of the Union Pacific railroad gives new life and energy to all classes of persons here. The vast and untold bodies of fir, spruce, cedar, and hemlock, in Oregon and Washington, will soon become of use and value to disseminate to regions which are measurably destitute of timber. Our coal mines are very extensive and of good quality in western Oregon.

Sheep raising bids fair to become an important branch of agriculture on the western slope of this continent. Sheep are very healthy, and the wool is excellent. Crosses of the South Downs and Merinos sell at $1 10 per head in this county. Some six woollen factories are now in good running condition, or in process of erection in western Oregon.

AGRICULTURE IN COLORADO.

A correspondent in Pueblo county, Colorado, writes as follows upon the agriculture of that Territory: "Permanent settlement and agricultural operations first commenced here in 1860, but little progress was made until two years later, since which time no country has ever improved faster; every available foot of land in this county being now occupied and cultivated as closely as in any part

of the United States. Every foot that can be watered is being turned by the plough. There are now fifty-three ditches in use in this county, their aggregate length being 147 miles, at a cost of $91,400, and if the cost of dams, breakages, repairs, &c., was estimated it would swell the amount to over $100,000. The actual number of acres already ploughed, is 21,150. Considering the insolation and newness of the country, and that not a foot can be cultivated without being irrigated, I think it will be hard to find a parallel. On the first day of June, 1867, there had been entered and pre-empted at the land office in the territory 400,000 acres, and a little over 100,000 are cultivated by "Spanish grant" holders; and about 50,000 acres are cultivated where the land is unsurveyed and unentered. So that there are nearly 600,000 acres now under the plough in the Territory.

CHICKEN CHOLERA.

Leake County, Mississippi.—In the May and June report, 1867, I find on page 216, an inquiry about "chicken cholera." The disease has been here for the last twelve months. I have used "Barton's preventive for hog cholera," (omitting the salt,) and find that it acts like a charm. Mix this medicine with corn-meal two or three times a week. Any medicine that will prevent "hog cholera" will prevent the "chicken cholera." The spirits of turpentine is a cure if taken in time, and no doubt would be a preventive. These two preventives, given in moderation, I recommend; the turpentine in quantities of from two to five drops to the chicken.

Fremont County, Iowa.—For the last two years my chickens have been dying of cholera; even the turkeys have died the same way. When I notice the hens begin to droop and look sleepy, I give them three or four tea-spoon's full of strong alum-water, and repeat the next day. I also mix the feed, (say corn-meal,) with strong alum-water, feeding twice a day for two or three days, afterwards, once a week. Since I have practiced the above I have not lost any.

A correspondent from Spring Valley, Iowa, sends us the following remedy for chicken cholera: "Take, say two eggs, a table-spoonful of finely pulverized alum, and a sufficient quantity of flour to make a thin paste, and force the chicken or turkey to swallow a portion of the mixture, and there are two chances to one that it will recover. I have used this remedy for two years with good success. I have also found it necessary, as a preventive, to use more or less alum in their feed, once a day when the disease prevails. Fowls should never have access to slop or swill-tubs, or any other kinds of sour food."

GRASSHOPPERS.

Great Salt Lake City, U. T.—This summer, in the northern portion of the Territory, the citizens have been greatly harassed by grasshoppers. Eggs were deposited in Cache county by some that came last fall. Those eggs germinated this spring, and millions of grasshoppers appeared. The towns of Logan, Hiram, and Wellsville, have had their field crops totally destroyed; some other of the towns in that county have suffered some. About six weeks ago many of them travelled into the Bear Lake region, (north,) but returned and have been travelling south, visiting many places in their journey. The settlements in Weber county have suffered. In Davis and Salt Lake counties wheat, &c., was rather too far advanced for them, but corn, carrots, cabbage, potatoes, &c., they attacked with a gusto.

On Saturday, July 28, the air was literally filled with something with life, too high for the naked eye to discern, but the glass revealed that they were grasshoppers. In the evening many of them had located in the southeastern portion of this city, and on Sunday, 29th, they commenced to work. Since

then they have spread, and apple, pear, and plum trees appear bare. Through their work corn is ruined and much damage is done.

The foremost forces have gone south, but we are still having fresh recruits from the north. I hear that they have most all left the northern counties of this Territory and are coming south. The vanguard is at Farmington, about eighteen miles north of here, so if they will hurry along we shall be able to bid them good bye, I hope, before they want to leave their eggs with us.

With all the drawbacks of a late spring and the grasshoppers, we shall raise sufficient breadstuffs and a little to spare, and a goodly quantity of potatoes.

Page county, Iowa.—The grasshoppers have just made their appearance here, and are very numerous; no damage has been done by them yet. Their presence will deter me from sowing fall wheat. This is much to be regretted, as I have imported the first grain drill into this part of the country, and desired to test its superiorty over the broadcast method. If drilled wheat would stand our winters, it would be the greatest improvement we could adopt.

Adams county, Iowa.—We are now suffering from grasshoppers. They appeared August 27, in clouds, and settled all over this part of the country. They are destroying buckwheat, turnips, potatoes, corn, &c. They will probably kill all the crops named except corn, and may do much damage to that, particularly the late fields.

Cherokee county, Iowa.—The grasshoppers appeared in great numbers August 28th and 29th. They have eaten up the buckwheat and injured the corn, devouring the leaves and eating into the ends of the ears.

POTATO BUG.

Jefferson county, West Virginia.—What is known here as the "potato bug" has appeared in some parts of our county, but not in as large numbers as I have seen them. They have been eating the tops of beets in our garden as greedily as they eat the potatoes. We have kept them off pretty well by dusting the vines with unleached wood ashes, applying it as often as the bugs made their appearance. We dusted the ashes on the vines and over the bugs, and they would soon leave. Whenever they reappeared we repeated the dose.

De Kalb county, Illinois.—The potato crop has been somewhat injured from the invasion of the potato bug. Early varieties are extremely fine; and while I write a heavy rain is falling, which will stay the ravages of the bug on the later varieties. These bugs are highly poisonous; the common barn-yard fowls will not eat them; it has been said by many that they would, but it is a mistake. The grouse or prairie chickens have been found dead with the bugs in their crops, which is evidence that they were killed by them. Sportsmen will have need to examine into the matter, as the flesh, if eaten, would poison in return.

Putnam county, Illinois.—The potato bug is making fearful ravages with the potato crop here. Many fields are entirely destroyed.

Webster county, Iowa.—The potato bug has made its appearance for the third time this year on some fields, and unless attended to promises to do great damage before potatoes mature. My experience is that they can be successfully guarded against by destroying them in their first attacks on the potatoes, but it frequently requires time and perseverance.

SILK CULTURE IN CALIFORNIA.

The following extracts from a recent letter written by L. Prevost, esq., of San José, California, to this department, will show something of the extent of the silk interest in that State:

"It is my intention this year to make an exhibition of the silk business at the fairs—everything from the beginning to the end—and, what will attract more attention, I am doing all I can to have Mr. Newman and son present with the California silk reel, reeling silk from the cocoons before the public, and Mr. Newman himself with a loom, manufacturing. The great interest that is now manifested in our State in silk raising has induced me to agree to be present at the State fair, and at the district fair of the San Joaquin valley at Stockton, and after these at our own fair at San José. It is also agreed that at every fair I will address the people on the subject; this will afford me great pleasure, as my object is to be useful to our country. * *

"I now feel very proud to see my humble efforts appreciated, and to know that the publication of my manual has determined so many to begin silk raising, and especially that all those to whom I have sent eggs in different parts of the State have so completely succeeded, and that none of them have had any disease among their worms. I have for a long time demonstrated the superiority of our climate for silk growing, but the fact that so many persons who never kept worms before, and at such great distances from each other, have all succeeded, proves beyond possibility of doubt what I have so often said. So great is the interest now manifested that a very large number are preparing to engage in this business the next season.

"Just a month ago I was in Sacramento, and think how pleased I was to find that over three millions of mulberry trees were growing there finely in different places. And I found, also, that Mrs. Haynie had a fine crop of cocoons—the finest I have ever seen yet. The question is now settled that the mulberry tree and the worms succeed finely all over our State; but by what I see Sacramento will be the first silk district of California. I think that for the next season they will have there food enough for ten millions of silk worms.

"Previous to coming to California, in 1849, I lived twelve years in the State of New York, and know all about the multicaulis operations there. That was merely the work of schemers to make money. It is impossible to raise silk there profitably, for several reasons, the principal of which are that the climate is not suitable to the worms; and during the time of feeding in the summer there is rain from time to time, and the storms of thunder and lightning destroy the worms. I was present at an attempt made on Long Island, and with great care the worms succeeded very well till a few days before they would have made their cocoons, and then came a very heavy storm that in one afternoon killed them all. The high price of labor is only a secondary question if the climate is suitable, as here, where we have everything favorable, our fine climate has enabled me to simplify the culture so completely so that one person can raise and take care of as many worms as eight persons would in France or Italy. * * * * * * * * *

"Such are our facilities, and such the adaptation of our climate, that in silk growing California need not fear competition from any quarter, and will soon be able to produce and manufacture silk to supply all the other States. In furnishing healthful employment, social comfort, refinement, and personal independence this is superior to every other domestic occupation yet discovered.

"L. PREVOST."

BROOM-CORN CULTURE.

A correspondent in Schenectady, New York, gives the following history of broom-corn culture in that State:

"Previous to 1827 the culture and manufacture of broom-corn in this State were monopolized by the United Brethren of Shakers, at Miskaynna, in this county. In 1827 they induced Mr. Benjamin Willard, of this city, to plant a

few acres on one of the islands in the Mohawk river, agreeing to take the brush at a fixed price per pound, and furnishing him with a rude implement for scraping the seed by hand, each head separate. Mr. Willard prepared the brush and notified them when it was ready for delivery Two of their number came to weigh and receive it, but when they saw the great length of the brush they were amazed, and refused to ratify their engagement, thus leaving Mr. Willard with what was supposed to be useless stock on hand. Mr. Willard thereupon determined to make it up into brooms. Deeming the mode then in vogue, of holding the twine by the feet and winding with the handle in hand, too slow a process, he invented the broom winder, now in use, and made better brooms in much less time, thereby working an entire change in the broom-corn culture and the manufacture of brooms. The cause of the excellence of broom-corn in this vicinity is the uniformly dry and warm nights during the summer months, owing to the absence of dew until near midnight, probably attributable to the sand plains on the hills surrounding this valley.

"*Culture.*—The ground is carefully ploughed, harrowed, and rolled, and between the 1st day of May and the middle of June planted in rows by a horse-power seed-planter. When the plant is about two inches high it is thoroughly weeded; when about six inches up the earth is removed from the sides of the rows with a scarifier, and the space between the rows made friable; and when the plant is about two feet high the earth is thrown to the rows with a double mould-board plow, and it is then left for the brush to develop. In sixty days from planting the brush is fully out, and it is then broken about two feet from the lowest branches, and after one day it is cut with a stem of six or eight inches, and taken to the comber or thresher (two revolving spiked cylinders) driven by power, and the seed removed; thence it is carried to dry houses and placed on slats or poles in tiers with one foot space. After being dried it is sized and packed into bundles ready for manufacturing into brooms.

"Broom-corn farmers prefer cuttings when the brush is green, as the green broom is more salable in the New York market than the red (ripe) brush. Experiments have shown that they are equally durable. Red or ripe brush exhausts the soil more than when harvested early. The first scrapings of seed are only fit for manure; the second is half as good as oats, and the third makes an excellent feed for horses and cattle, and is found to be a superior feed for milk cows in the winter months. The haulm when properly cured and housed, makes a good fodder. One bushel of good seed will plant ten acres of bottom land.

"The brooms in use in 1827 sold for $2 25 per dozen; in 1830 the Schenectady brooms brought $2 50; and now the best brooms sell at $1 75 to $2 per dozen. Ripe seed is now selling here for $7 per bushel. Brooms are daily sent from this city to all the States, Canada, West Indies, and Europe, and the demand is increasing. A quantity of brush manufactured here is grown in the States of Illinois and Indiana. In most of the western States, and in Pennsylvania, the plant will not flourish."

EGYPTIAN COTTON.

The following letter gives a favorable account of the Egyptian cotton seed distributed last spring by the department:

Warren county, Miss.—I received, late in April last, two packages of Egyptian cotton seed, one of which we planted in this vicinity; the other I distributed in small parcels among some ten or twelve planters in this county, five or six in Texas, and one in Florida. All heard from report very favorably. Mr. Fletcher, an old planter, has had several bolls opened, a few

locks of which I send you as a specimen of the first Egyptian cotton grown in this country. Mr. F. thinks that it would make 1,200 to 1,500 pounds per acre under favorable circumstances, and the finest lint and best staple he ever saw. The stalks are of good size and well limbed, many bending under the weight of bolls and more squares forming. He counted two hundred bolls on an average stalk; it may still further improve by cultivation when better known and acclimated. The planters are now convinced that, although planted so late, it will mature in this climate, latitude 32° 20′, and may be acclimated throughout the cotton region. A few stalks were topped with promising results.

SAMPLE COTTON FROM GEORGIA.

MADISON, MORGAN COUNTY, GEORGIA.
September 1, 1867.

DEAR SIR: I have the honor to transmit herewith my report for September.

I am happy to be able to make a favorable report this month. I have been in different parts of the county, talked with a great many practical, sensible planters, and it seems to be the general verdict of all that Morgan county has better crops of cotton and corn than has been known here in fifteen years. The acreage planted is no doubt much less than in former years, owing, in a great measure, to the scarcity of stock, laborers and capital. The boll worm has made its appearance in some parts of the county, but not in sufficient numbers to do much damage.

I send to the department a small bale of cotton.

Respectfully, yours,

B. H. TRUE.

Hon. J. W. STOKES,
Acting Commissioner of Agriculture, Washington, D. C.

Accompanying the above note we received a miniature bale of this year's cotton, put up in the form of the large bales, weighing four pounds, and bearing the following inscription: "Presented to the Agricultural Department, Washington, D. C., by B. H. True, Madison, Ga., August 30, 1867." The bale has been deposited in the museum of the department.

THE COTTON WORM.

We give place to the following letter upon a subject which is of deep interest to cotton growers at this time:

PIKE CO., MISS., *August* 31, 1867.

DEAR SIR: In compliance with your request, I herein give the result of my observations on the cotton worm; but as they were confined to the third generation, it would possibly be as well to give also a brief account of the first appearance and progress of the two preceding generations. The first notice of the worms was in the latter part of June or early in July, when they appeared in small patches in the fields. There was considerable controversy then whether they were really the cotton worm or the so-called grass worm, but the second brood coming about the latter part of July, convinced the most skeptical of the melancholy fact that they were the genuine cotton worm. The third generation commenced eating on the 25th of August. * * *

I think the last generation, coming in such numbers, eat the cotton before the majority arrive at maturity, but the few that do mature, finding no cotton upon

which to deposit their eggs, lay them on trees, grass, &c. The cold weather soon sets in and prevents their being hatched, and it is not until the warm days of spring come that the worm comes out. The number of worms hatched would be necessarily small, as numbers of eggs would be lost from various causes, cold, &c. * * * The moth or fly belongs to the nocturnia tribe of the moth family. They commence their flight at sundown or a little before, and continue until 10 or 11 o'clock, darting with a quick zigzag motion from one stalk to another, nearly always selecting the tallest and most vigorous plants on which to deposit their eggs. I have not been able to form any correct estimate of the number of eggs laid by one individual, but have counted nearly 500 squeezed from one. * * *

On the 5th day of this month I placed ten well-grown worms in a vase and kept them well supplied with food. On the 9th and 10th they quit eating and seemed indisposed to move. On the 10th and 11th they commenced webbing by drawing a web from one side of a leaf to the other very tight, which caused the leaf to bend or curl a little; they then drew another a little tighter, and so on until the leaf was bent so as to form a tube, inside of which they placed themselves and lined it with a fine delicate web. Some I did not allow to have a leaf; they suspended themselves from a stem and commenced a slow spiral motion, and in about twenty-four hours had assumed the pupa state, being enclosed in a horny covering, through which the rudimentary wings and legs could be seen; those inside the leaf undergoing the same changes. * * On the 17th the fly emerged from the pupa state, but was weak and hardly able to fly for about twenty-four hours. On the 20th, and possibly 19th, they commenced to lay, and on the 24th the first worms made their appearance, but were too small to be seen without the aid of a glass. They grew very slowly for the first three or four days, but after that very rapidly, eating several times their own weight every day. They seem to eat more in the evening and in the morning than any other time; in fact, it is rare to see them eat during the day They have now, the 1st of September, almost attained their full size. I think my dates and figures are correct, as I took every precaution. The stalk of cotton on which my flies laid their eggs grew in the garden until the first of this month, when I transplanted it to a jar, since which time it has been in the house and under a mosquito bar where all the flies and worms were kept. When I put it in the jar I brushed and examined every leaf, and if there had been any eggs on them they would have surely hatched before the 20th, or certainly before the 25th. I allowed no one to go into the room.

I think if there was any systematic course pursued by the planters, the cotton could be in a great measure protected. Suppose the planters in every neighborhood should keep a strict look-out in the spring, and as soon as the first worm appears give the alarm, and then examine and destroy all that could be found, continuing the examination from week to week and destroying all while worms, or as soon as they are webbed up. I think they could be all killed in this way, or at least held in check. It would be useless for one planter to do this, as the worms would fly from one place to another, but if all would act together some good could surely be done. We know the fly lays at least 500 eggs; now for every worm of the first generation destroyed we cut off 250,000 from the third. The labor of killing the worms is not as great as it would seem at first sight, as they are not scattered over the field, but are found in patches until they increase so as to cover all. There are several other peculiarities of the worms I have neglected to mention; one, that when touched, instead of curling up, as most worms do, they suddenly contract at the two extremities and spring several inches. My ideas may be wrong, but the figures are not.

Very respectfully,

JAMES M. FERGUSON.

THE GRASSHOPPERS.

A correspondent at Pleasant Ridge, Kansas, sends the following sketch of the western grasshopper or locust:

"These grasshoppers, or mountain locusts, as many call them, made their appearance in the western part of Kansas late in August, or about the beginning of September, 1866. The first intimation had here of their approach was the delay of the eastward-bound train from Fort Riley and Manhattan on account of the immense numbers of insects crushed on the track, thereby destroying the friction of the driving wheels. About the 27th of the same month they made their appearance in eastern Kansas, progressing at the rate of from five to ten miles a day, or according to the velocity of the wind in the direction they travel. Their general course seemed to be from the northwest to the southeast. A contrary wind greatly impeded their progress, and when a strong breeze had to be overcome, they could not make any progress at all in their favorite direction, but generally remained on the ground rather than attempt to proceed, and spent their time in consuming everything accessible in the vegetable line.

"They travel in the air like bees, some flying at an immense height, as can be seen on a clear day by looking toward the sun. When first appearing in any certain locality it is in the manner of a cloud, the insects descending to the earth like dropping rain. They commence at once devouring all vegetable substances in their way, showing, of course, a preference at first. Vegetables possessing the property of sweetness in any great degree, as green corn, sorghum, etc., escape till all others in the vicinity are consumed. But everything of an acid or sour taste, as cabbage, or rhubarb, (pie-plant,) as well as bitter and even hot substances, as tobacco, and red or cayenne pepper, are especial favorites. The tenderest vegetation is always destroyed first. Our fine crops of fall wheat were completely eaten up in the space of two or three hours.

"This insect is one of the varieties of the locustidæ and is doubtless the most destructive one known in this country—not only on account of its habit of appearing in such immense numbers, but because of its exceeding voraciousness. It is known to eat nearly everything of the vegetable kind, even to the dry bark on trees, and dry lint of seasoned fencing plank, as well as dry leaves and paper, all kinds of cotton goods and woollen clothing, and I have even seen a flock of sheep literally covered with them, devouring the wool.

"Soon after these insects came upon the ground they concentrated along the roads and upon any bare earth they could find, preferring the short vegetation common to such places to the hard prairie grass. In such situations and in cultivated fields the most of their myriads of eggs were deposited. They continued laying till the severe winter weather killed them. The eggs were deposited to the depth, generally, of one inch; although in loose earth where vegetable roots were found some were placed as far down as ten to twelve inches, according to the length of the root, which was followed down and devoured, the grasshopper emerging after having laid its eggs.

"On north hill-slopes the process of hatching was much retarded. It was supposed by the people generally that the severe winter would utterly destroy the posterity of these creatures in this vicinity; but it did not, as the developments of spring fully testified, though perhaps not more than one-fourth of the eggs withstood the weather and produced grasshoppers. Some of them commenced hatching as early as the last of February, when there were a few warm days which brought forth those lying on the top of the ground. In March the weather was so severe that a large proportion of the remaining eggs perished, the thermometer frequently indicating 18° below zero. Judging from the voraciousness of those that did appear, I doubt not Kansas would have been made a perfect desert if all had lived.

"About the 10th of April the young grasshoppers began to appear in myriads, and farmers grew alarmed. Some, however, went on with their work, remembering that 'it is God who giveth the increase;' while others showed a disposition to wait. I was among the latter, but the former course resulted favorably in most localities, though in Salt Creek Valley, where the best farms of the State are located, not only are the ordinary grains devoured, but the finest timothy and blue grass meadows are entirely killed out. Farms lying next to timber and brush, however, fairly escaped, owing to the supply of vegetation thus afforded, and the constant fright given to the insects by workmen. When once driven from a place they scarcely ever voluntarily return, as I demonstrated this spring in saving a garden and potato patch. This was done by taking bushes and driving the grasshoppers out at about 11 o'clock a. m., and again at near sunset. They are very destructive during the night, and should always be driven off before sunset.

"I first noticed these insects on the wing this season on the 27th of June at Fort Leavenworth, when I saw a large number above the tops of the trees flying off in a southeasterly direction. Upon leaving the egg they are of a milky white color and very tender. When they first began to appear in the spring the cool nights destroyed many. Indeed, during the entire time they have been constantly dying by millions; those that remained alive devouring the dead carcasses with the utmost avidity.

"No general damage has been done in the State this year by the grasshoppers, but some localities have suffered extensively. As before remarked, as soon as they had developed wings they left us, apparently governed in their course by the wind. We are now quite free of them, and nearly as good crops will be raised as usual. It is thought here that they are natives of southwestern Texas and of Arizona, where these doubtless came from.

"Yours, respectfully,

"W. F. GOBLE."

ABORTION IN COWS.

The following has been received from A. Loomis, of Little Falls, New York, who deems Dr. Parker's views on the "disgusting and filthy practices to increase their milk," as charged upon dairymen, to be incorrect and slanderous:

"In your monthly report for March, under the head of *Abortion*, you quote from Dr. S. J. Parker, of Tompkins county, New York, his views of the causes of that scourge of the cheese dairymen in this region. The doctor evidently knows nothing about it, and has formed his facts to suit his theory. Calves are not killed before they have sucked; and cows are not doctored or drugged to increase their milk. The Farmer's Club of this place has for several years past made this subject a speciality. The investigations extend to thousands of cases, and the correspondence with intelligent and observing farmers, who have seen and suffered from the disorder, and with men of science, has been long continued and extensive, endeavoring to find a cause or a cure. The State Agricultural Society has now undertaken the investigation, and has procurred an appropriation from the legislature, and is about to send several scientific men into the dairy regions to make a thorough investigation, in addition to that of the *Farmer's Club* of this place."

FROM DENMARK.

W. Marsh, esq., consul at Altona, writes to this department, under date of July 27, as follows:

"Nearly all the early kidney potatoes were affected, and now that the round

ones are coming in we see signs of the disease in them. The weather for the last thirty days has been rainy, and the late hay and clover crops have been gathered in very bad condition.

"Rye and buckwheat look well all over Holstein; both promise a heavy crop if the weather comes favorable to gather them.

"The disease called trichina still lingers among swine in parts of Schleswig-Holstein, and causes sickness and death to all who eat the flesh in a raw condition.

"There is no rinderpest, I believe, within this district at present, although one hears of cases occasionally in the interior of Germany, particularly southward; but here, where the heaviest and greatest number of oxen are fattened for the English market, the disease has not appeared."

METEOROLOGY.

JULY AND AUGUST, 1867.

Correction.—By an oversight in our July number, the table was headed "July;" it was for *June*, only.

A prediction.—The following note was received by due course of mail, soon after its date, and was preserved as requested. It will be seen by examining our table and the succeeding notes for August, that the cold wave exceeded in extent the writer's calculations—extending over the eastern and middle States, and away down south, as well as over the northwest:

"BOWLING GREEN, OHIO, *July* 25, 1867.

"DEAR SIR: From observations made by me on the electric and magnetic currents, followed by a change of air, I predict a cold current of air through this northwest country between the 27th and 30th of August, proximo. I think there will be frost in some places, unless clouds intervene. Please keep this note until the 30th of August next, and see if I am right in the prediction.

"I remain truly yours,

"JOHN CLARKE.

"Hon. J. W. STOKES,
"*Acting Commissioner of Agriculture.*"

On August 31, Mr. Clarke wrote: "The expected electric magnetic current passed here at about 2 a. m. of the 28th, followed by other and similar waves, and succeeded by northwest winds, and on the morning of the 30th we felt a frost."

JULY AND AUGUST, 1867.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain, (in inches and tenths,) for July and August, 1867, at the following named places. The daily observations were made at 7 o'clock a. m. and at 2 and 9 p. m.

[Compiled in the Department of Agriculture from the reports made by observers for the Smithsonian Institution.]

States and places.	July, 1867.						August, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MAINE.		°		°	°	*In.*		°		°	°	*In.*
Steuben	3, 16	84	31	49	64. 5	5. 60	21	80	31	50	66. 4	8. 80
Lee	16, 24	86	27	50	66. 5	3. 55	8	87	31	52	65. 7	5. 10
Williamsburg	15, 16, 24	82	21, 26	52	64. 7	8. 41	.....	.....	.....	.....	.....	.....
West Waterville	24	90	19, 20	52	68. 2	3. 70	18	86	31	51	70. 3	6. 90
Gardiner	24	86	20, 31	55	67. 1	3. 94	18	81	31	54	68. 2	8. 49
Lisbon	24	88	.....	.....	.....	4. 08	.....	.....	.....	.....	.....	7. 76
Standish	24, 25	89	31	50	68. 9	5. 17	10	89	30, 31	53	69. 9	9. 10
Rumford Point	24	87	31	50	66. 2	6. 90	18	86	31	45	67. 5	5. 10
Cornish	24	88	21	52	67. 6	4. 10	7, 14	86	31	46	68. 5	9. 00
Cornishville	24	88	21	53	69. 2	4. 90	8	84	31	48	69. 5	9. 13
Averages	.....	.....	.....	.....	67. 0	5. 04	.....	.....	.....	.....	68. 3	7. 71
NEW HAMPSHIRE.												
Stratford	24	90	31	47	64. 6	4. 76	8	88	31	41	66. 0	5. 46
North Barnstead	24	88	31	54	68. 8	4. 24	5, 7, 18	86	30	52	69. 1	7. 86
Claremont	24	90	31	50	67. 6	4. 70	9, 18	86	31	42	68. 4	5. 87
Averages	.....	.....	.....	.....	67. 0	4. 57	.....	.....	.....	.....	67. 8	6. 40
VERMONT.												
Lunenburg	23	92	13, 14, 15, 16, 17	50	70. 2	3. 33	18	95	30	30	64. 7	4. 56
North Craftsbury	24	87	30, 31	48	63. 9	4. 85	8	92	31	42	.....	.....
Randolph	24	89	14, 22	49	66. 4	3. 30	7	88	31	48	67. 7	4. 90
Middlebury	24	84	13	54	64. 2	3. 11	8	80	31	48	68. 3	4. 25
Brandon	28	92	19	51	68. 2	4. 43	.....	.....	.....	.....	.....	.....
Barnet	24	100	11	61	74. 0	3. 00	.....	.....	.....	.....	.....	.....
Averages	.....	.....	.....	.....	67. 8	3. 67	.....	.....	.....	.....	66. 9	4. 57
MASSACHUSETTS.												
Kingston	4	88	13	55	68. 1	7. 25	18	88	31	50	70. 1	8. 65
Topsfield	4	92	19, 20, 21	57	70. 1	6. 39	18	90	31	55	71. 3	9. 21
Lawrence	4	88	20, 21	54	67. 8	7. 40	18	85	31	48	69. 1	.....
Georgetown	4	88	13, 21	54	67. 2	.....	5, 8	85	31	45	69. 0	.....
Newbury	28	91	21	55	69. 0	.....	.....	.....	.....	.....	.....	.....
Milton	4	94	21	53	67. 9	5. 13	18	88	31	46	69. 4	8. 75
North Billerica	25	89	21	54	70. 6	.....	7, 10, 19	86	31	43	71. 2	.....
West Newton	4	99	1, 21	58	72. 7	3. 70	10, 18	94	31	54	75. 2	10. 15
New Bedford	25	82	21	55	67. 7	5. 92	15, 18	81	31	53	70. 6	5. 56
Do	7	89	21	57	70. 2	6. 11	15	84	31	54	72. 1	6. 42
Worcester	4	88	21	55	69. 0	3. 36	18	84	31	51	69. 4	10. 79

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	July, 1867.						August, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MASSACHUSETTS—Continued.		°		°	°	*In.*		°		°	°	*In.*
Mendon	4	88	21	54	68.2	3.20	18	85	31	50	66.4	8.75
Lunenburg	25	90	21	55	73.3	3.60	7, 9, 14	86	31	49	69.2	10.80
Amherst	3, 24	86	31	55	68.1	4.00	7	84	31	48	68.6	9.16
Richmond	3, 15, 27	90	30	57	72.8	7.35	18	90	31	44	72.4	8.82
Williams College	28	87	14, 19	52	66.2	3.61	18	85	31	45	67.4	5.21
Averages					69.3	5.16					70.1	8.52
RHODE ISLAND.												
Newport	1	88	21	53	67.4	6.63	6, 15	86	31	52	70.0	6.70
CONNECTICUT.												
Pomfret	4	85	21	53	66.6	3.16	18	81	31	50	67.3	12.13
Columbia	4	92	18	58	70.5	.....	7, 18	88	31	48	70.6	.....
Middletown	4	94	13, 19	58	70.8	3.31	5, 18	89	31	48	70.7	10.22
Colebrook	4, 24	88	21	54	68.3	.....	5	84	30	51	68.4	.....
Groton	.....	.....	.....	.....	.....	.....	10, 19	86	31	52	.....	10.75
Averages					69.1	3.24					69.3	11.03
NEW YORK.												
Moriches	1	92	9, 19, 20, 21	64	74.4	4.65	11	90	31	56	75.1	5.60
South Hartford	24	92	1, 5, 13	56	72.5	3.73	7, 15, 18	86	30	46	73.4	2.50
Troy	24	93	31	57	71.6	3.42	18	88	31	51	71.7	7.29
Germantown	24	95	13	58	73.2	1.80	5, 18	90	31	56	76.0	5.80
Garrison's	4	94	19	57	71.0	4.20	18	89	31	51	71.0	10.75
Throg's Neck	3, 4, 7	90	9	60	72.6	.....	18, 21	86	30	58	73.0	.....
White Plains	4	85	16	55	69.9	.....	18	82	30	56	70.8	.....
Deaf & Dumb Ins'n	4	88	13, 20	61	72.3	5.76	18	85	31	54	71.9	7.70
Columbia College	4	90	18	60	74.1	3.88	18	85	30	61	72.6	6.72
Flatbush	14	92	18	58	70.8	2.57	12	90	31	55	72.2	8.63
Newburgh	4	93	18	58	72.3	3.11	18	89	31	52	72.0	9.23
Minaville	24	86	18	59	70.4	.....	7	84	30	54	69.7	.....
Gouverneur	24	88	18, 30	54	66.4	2.52	7	88	30	48	68.5	1.99
North Hammond	24	88	9, 13, 18	56	68.7	4.17	9	93	30	54	72.1	3.45
South Trenton	28	90	10, 13, 21	54	69.8	0.86	5	90	31	42	70.4	3.34
Cazenovia	28	87	19	53	67.6	.....	18	87	30, 31	48	68.8	.....
Oneida	28	92	13	54	69.6	5.96	7	91	30	48	70.1	5.15
Houseville	28	90	13	50	67.3	4.12	6, 7	89	30	48	68.1	3.33
Depauville	24	86	13	55	68.2	2.18	6, 7, 8, 9	88	30, 31	52	70.1	2.05
Theresa	.....	.....	.....	.....	.....	3.30	8	90	.....	.....	.....	1.99
Oswego	28	90	9, 13, 14	56	67.2	1.94	18	87	31	52	69.8	2.53
Palermo	24, 28	94	13	51	69.3	2.40	6, 7, 8, 9, 18	90	30	46	69.5	1.60
Nichols	24	95	15, 31	50	69.3	.....	6	95	31	44	69.6	.....
Geneva	24	94	13	55	70.9	2.64	18	93	30	50	69.0	0.96
Rochester	24	90	9, 13, 14	56	69.2	3.54	18	91	30	49	71.2	0.72
Rochester Univ'ty	24	89	9	56	69.4	3.56	18	90	31	49	69.6	0.72
Little Genesee	24	93	14, 17	48	67.4	3.30	6	91	31	37	66.7	4.00

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	July, 1867.						August, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
NEW YORK—Con'd.		°		°	°	*In.*		°		°	°	*In.*
Friendship	24	90	17	51	67.1	2.45						
Suspension Bridge	23	100	14	54	70.5		6, 8	96	30	46	69.9	
Buffalo	27	90	13	54	71.8	1.54	7	94	30	50	72.2	0.29
Averages					70.2	3.23					70.9	4.76
NEW JERSEY.												
Paterson	4, 28	94	9, 15, 18	60	71.7	4.85	6, 14	90	31	48	71.0	13.46
Newark	4, 25	88	19	56	70.9	3.76	18, 19	84	31	50	70.8	10.62
New Brunswick	4	90	19	58	71.9	5.03	18	87	31	55	71.3	8.45
Trenton	4	92	10	63	77.5	6.55	19	86	31	58	75.7	9.58
Burlington	4, 28	88	16, 19	62	72.8	5.80	19	86	31	55	71.3	10.50
Moorestown							19	86	31	56	72.1	8.86
Mount Holly	4	89	19	60	71.7		19	83	31	51	71.6	
Seaville	3	95	15, 20, 21, 22	62	72.3	6.20	19, 20	90	1, 31	62	76.6	7.60
Dover	4	89	13	56	70.7	5.83	14	88	30	53	71.4	11.46
Readington	4	92	13, 14, 15, 17, 19, 22	60	73.9		5, 14	88				
Haddonfield	4	92	15	58	72.4	4.18	10, 19	85	31	51	71.3	13.42
Greenwich	28	91	15	59	74.8	2.30	14, 19	87	31	53	73.7	8.77
Vineland							14	91	30, 31	56	74.1	8.52
Averages					72.8	4.94					72.6	10.11
PENNSYLVANIA.												
Nyces	24	90	18	51	68.4	2.90	14	85	30	43	67.0	9.60
Fallsington	3, 4	90	18	60	71.9	5.30	19	85	31	56	71.0	11.00
Philadelphia	4	91	19	62	76.1	3.03	5, 14	85	31	62	74.6	16.84
Germantown	4, 5	93	19	58	74.4		14	89	31	60	73.4	
Horsham	4	88	9	59	71.7	3.16	10, 14	84	31	54	70.4	14.80
Dyberry	24	91	14	48	66.9		18	85	31	40	65.5	
North Whitehall	4	88	15	52	71.6		14	86	31	45	70.5	
Parkesville	3	93	31	61	75.1	3.65	14	90	30	58	74.0	9.68
Reading	4, 5, 24	93	31	59	73.9		18	89	31	53	72.5	
Ephrata	24	95	9, 15	61	75.4	3.02	14, 18	90	31	56	73.8	14.86
Silver Spring	4	96	9	48	74.0							
Mount Joy	4	94	13, 19	62	72.8	2.15	18	90	30	57	73.2	8.80
Harrisburg	4	90	14	65	76.0	2.55	13, 19	85	31	56	73.4	14.17
Ickesburg	4	94	31	57	72.5	3.24	18	89	31	49	71.0	9.79
Lewisburg	24	92	9	59	73.0	2.73	18	88	31	47	70.9	8.74
Tioga	3, 4, 27	96	31	50	71.5	3.25	8	96	30	48	71.4	4.60
Pennsville	24	92	11, 17	50	67.9	4.21	6	89	31	42	67.3	4.24
Murrysville	24	92	9, 10	55	73.0	3.88						
Connellsville	24	92	9	55	71.7		6, 18, 19	88	30	48	71.0	
New Castle	24	93	10	45	69.8		18	90	31	47	69.7	
Canonsburg	24	92	10	52	71.1	3.60	18	90	31	42	71.0	1.84
Averages					72.3	3.33					71.2	9.51

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	July, 1867.						August, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
MARYLAND.		°		°	°	*In.*		°		°	°	*In.*
Woodlawn	28	93	8	61	75.3	3.31	14	90	30	57	73.3	11.38
Catonsville	28	89	19	61	74.2	.....	18, 19	85	30, 31	58	71.6	.....
Annapolis	28	92	10	64	77.2	4.44	18	88	30, 31	63	75.8	14.55
Emmittsburg	24	96	13	60	75.3	.....	5	95	31	54	74.5	.....
Averages	.....	.....	.....	.....	75.5	3.88	.....	.....	.....	.....	73.8	12.97
VIRGINIA.												
Cape Charles L. H	1, 26	90	13, 15	65	76.8	4.20	20	87	31	69	74.1	5.10
Surry C. H.	24, 25	99	19	63	76.7	.....	20	96	31	62	79.4	.....
Hewlett's Station	1, 24, 28	92	19	59	75.3	2.75	13	91	30	64	75.0	6.57
Mount Solon	1	94	30	60	75.9	.....	13	91	30	50	72.7	.....
Lynchburg	25	90	31	62	76.6	.....	19	86	31	55	74.5	.....
Averages	.....	.....	.....	.....	76.3	3.48	.....	.....	.....	.....	75.1	5.84
WEST VIRGINIA.												
Romney	3	94	14	54	72.6	.....	13	94	31	52	73.5	.....
Grafton	3	100	10	56	77.2	5.60	.....	.....	.....	.....	.....	.....
Cabell C. H	1, 2, 3	91	10	58	75.0	1.60	12	92	31	54	74.2	2.50
Averages	.....	.....	.....	.....	74.7	3.60	.....	.....	.....	.....	73.9	2.50
NORTH CAROLINA.												
Goldsboro'	25	98	21	67	79.1	9.00	19	90	31	64	77.3	9.78
Oxford	25, 26	92	31	64	81.7	1.80	21	89	31	61	76.3	4.45
Raleigh	25	103	10, 15, 20	65	79.7	2.45	14	97	31	61	78.1	6.85
Albemarle	2, 24	97	21	59	77.0	1.43	14	93	30, 31	60	75.6	8.70
Statesville	25	94	21	55	75.2	0.25	.....	.....	.....	.....	.....	.....
Asheville	25	88	10, 22	60	73.2	.....	13	87	31	55	70.5	.....
Averages	.....	.....	.....	.....	77.7	2.99	.....	.....	.....	.....	75.6	7.45
SOUTH CAROLINA.												
Aiken	24	93	14, 15, 16, 20	71	79.7	.....	20	86	31	65	75.5	11.07
ALABAMA.												
Moulton	25, 26	86	22, 23	64	76.6	5.55	5	86	30	61	78.4	4.96
Carlowville	25	94	1, 5, 11, 12, 13	75	81.9	2.26	19	95	25, 31	70	81.2	1.45
Uniontown	24, 25	97	1	74	82.9	.....	.....	.....	.....	.....	.....	.....
Fish River	22	93	1, 17	73	81.0	2.82	6, 8, 13, 14, 15, 16	90	31	68	78.1	13.55
Opelika	24, 25	94	2	72	80.5	.....	16	90	31	68	75.8	.....
Greene Springs	24, 25	94	1, 7, 8	72	80.0	5.00	11	94	30, 31	67	79.5	2.10
Averages	.....	.....	.....	.....	80.5	3.91	.....	.....	.....	.....	78.6	5.52

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	July, 1867.						August, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. emp.	Mean temp.	Rain.
FLORIDA.		°		°	°	*In.*		°		°	°	*In.*
Fernandina	5, 6	89	29	71	82. 6	5. 40	.....	.....	.....	.....	.....	.....
Jacksonville	28	98	17	74	86. 1	11. 08	28	94	31	75	81. 9	6. 40
Gordon	26, 27, 31	94	29	72	82. 2	.....	.....	.....	.....	.....	.....	.....
Port Orange	5	93	11	74	85. 4	.....	.....	.....	.....	.....	.....	.....
Cedar Keys	2	95	17, 19	77	84. 0	.....	.....	.....	.....	.....	.....	.....
Averages	.....	.....	.....	.....	84. 1	8. 24	.....	.....	.....	.....	81. 9	6. 40
TEXAS.												
Houston	24	98	2	73	84. 6	.....	.....	.....	.....	.....	.....	.....
Columbia	23, 27	96	6	75	83. 1	5. 33	.....	.....	.....	.....	.....	.....
Waco	22, 28	99	2	74	85. 7	2. 30	12, 13, 19, 23, 25	97	17, 18	71	84. 3	4. 00
Austin	28, 31	97	2	71	83. 6	.....	14	98	29, 30	72	82. 6	3. 27
Long Point	28	96	3, 6	76	84. 5	8. 31	15	99	28, 29	72	84. 9	11. 63
Averages	.....	.....	.....	.....	84. 3	5. 31	.....	.....	.....	.....	83. 9	6. 30
LOUISIANA.												
Benton	21, 28	92	2	72	83. 3	.....	.....	.....	.....	.....	.....	.....
MISSISSIPPI.												
Grenada	24, 25	91	31	64	.....	.....	12, 13	94	31	61	.....	.....
Fayette	20, 23, 24, 25	84	31	67	75. 5	.....	.....	.....	.....	.....	.....	.....
Natchez	20, 21, 22, 23, 25	88	31	70	81. 7		7, 14	89	31	65	78. 8	4. 00
Averages	.....	.....	.....	.....	78. 6	8. 16	.....	.....	.....	.....	78. 8	4. 00
TENNESSEE.												
Tusculum College	25	89	9	63	75. 5	.....	11, 12	88	31	57	74. 0	.....
Lookout Mountain	25	91	15	69	77. 5	.....	13	89	2	67	77. 9	.....
Clarksville	11, 25	89	30	63	74. 7	4. 05	18, 26	88	30	58	74. 5	1. 30
Franklin	11	88	21	68	77. 1	.....	12	93	30	60	77. 7	.....
Averages	.....	.....	.....	.....	76. 2	4. 05	.....	.....	.....	.....	76. 0	1. 30
KENTUCKY.												
Chilesburg	2	94	10	54	75. 0	5. 83	12, 13	96	31	50	.....	1. 26
Louisville	24	94	10	53	75. 4	3. 54	18	95	30	50	76. 1	1. 92
Averages	.....	.....	.....	.....	75. 2	4. 69	.....	.....	.....	.....	76. 1	1. 59
OHIO.												
New Lisbon	24	100	12, 20	50	72. 4	3. 13	6	94	31	45	.....	.....
Steubenville	24	93	17	54	76. 7	3. 65	18	91	31	48	75. 4	2. 65
Painesville	24	87	13, 29	59	70. 6	5. 19	18	86	30	52	70. 6	1. 75
Milnersville	3	93	30	50	73. 0	2. 79	.....	.....	.....	.....	.....	.....
Cleveland	11, 28	91	9	54	71. 5	2. 72	18	91	30	51	71. 1	0. 88
Do	4	92	9, 10	63	77. 7	.....	.....	.....	.....	.....	.....	.....

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
OHIO—Continued.		°		°	°	*In.*		°		°	°	*In.*
Wooster	24	96	9, 16, 17	60	75.9	.....	6	94	31	48	75.0	.....
Kelley's Island	24	89	12	61	74.0	3.63	18	89	30	57	74.9	0.14
Norwalk	2, 3, 28	90	12, 17	54	70.9	2.89	18	93	30	50	70.7	0.41
Greenwich	3, 23	90	13, 16, 19	58	73.0	1.78	18	98	30	50	72.0	0.71
North Fairfield	3, 5, 24	90	9, 10, 12, 13, 17	60	73 5	2.12	.....	.....	.....	.....	.....	.....
Marion	2, 3	89	30	59	72.0	3.14	12	89	30	48	71.3	1.40
Toledo	23	94	4	45	71.8	2.06	.....	.....	.....	.....	.....	.....
Bowling Green	24	99	30	46	72.2	4.72	6	98	30	36	69.9	5.70
Kenton	28	94	13	64	77.2	2.56	18	94	30	50	76.9	1.31
Urbana University	1	94	30	57	73.9	2.87	8, 18	93	30	48	73.1	2.08
Hillsboro'	1, 2	90	30	58	73.3	2.56	17	88	30	50	71.6	4.02
Bethel	3	94	9, 12, 13, 16, 20, 21, 29, 30	60	72.5	2.35	18	92	30	53	75.2	2.25
Cincinnati	7	96	16	64	79.4	2.38	9, 19	95	30	60	81.6	0.81
College Hill	24	97	16, 17, 18	60	76.0	0.94	13	95	26	62	77.3	0.44
Farm School	1	95	9	56	74.6	2.25	.....	.....	.....	.....	.....	.....
Averages	.....	.....	.....	.....	73.9	2.83	.....	.....	.....	.....	73.8	1.75
MICHIGAN.												
Monroe City	24	94	10	50	75.8	1.80	17	92	30	48	74.7	2.70
State Ag. College	23	94	12	52	71.6	1.78	5, 12, 23	90	30	38	69.8	1.74
Litchfield	25	95	12, 15, 16	56	71.7	3.83	17	89	30	48	70.0	3.60
Grand Rapids	23	94	9, 12	56	72.5	.....	.....	.....	.....	.....	.....	.....
Northport	23	88	8	52	66.7	.....	17	89	29	47	68.2	.....
Otsego	24	96	7	54	72.7	.....	7, 9, 12	94	28, 29, 30	50	72.4	.....
Holland	3	88	9, 12, 29	53	70.5	1.65	.....	.....	.....	.....	.....	.....
Copper Falls	20, 22, 23	81	11	48	63.4	2.06	8	91	31	46	64.1	1.58
Ontonagon	22	84	6	54	66.1	.....	8	88	31	44	66.3	.....
Averages	.....	.....	.....	.....	70.1	2.22	.....	.....	.....	.....	69.4	2.41
INDIANA.												
Richmond	2	92	9	60	72.6	6.98	18	91	30	53	71.8	1.69
Aurora	2	100	31	56	77.5	2.59	7, 18	96	30	54	75.9	1.66
Vevay	24	100	29	62	80.3	3.95	24	98	30	52	80.2	4.09
Muncie	1, 3	98	9, 29	59	76.0	3.90	9	95	30	49	72.3	5.30
Spiceland	2	97	9	58	74.3	5.20	18	94	30	53	73.3	1.50
Indianapolis	1	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Merom	1	93	8	61	75.1	4.50	.....	.....	.....	.....	.....	.....
New Harmony	1, 2, 11	91	30	66	77.8	3.62	12, 19	92	30	63	77.9	1.76
Averages	.....	.....	.....	.....	76.2	4.39	.....	.....	.....	.....	75.1	2.67
ILLINOIS.												
Chicago	24	100	29	58	77.4	.....	12	102	29	54	78.2	.....
Do	22, 23, 25	86	9, 12	62	72.9	1.52	17	89	30	57	75.5	2.33
Golconda	27	100	15	61	81.7	4.40	4, 10, 19	99	2	62	77.4	1.10
Aurora	2, 23	89	12	54	72.2	2.98	8	92	29	52	71.8	2.7

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	July, 1867.						August, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
ILLINOIS—Con'd.		°		°	°	*In.*		°		°	°	*In.*
Sandwich	3	95	12	55	72.9	1.95	12	97	30	50	72.3	2.98
Ottawa	2, 24	97	12	57	73.6	4.23	9	100	29	56	76.3	2.41
Winnebago	23	93	13, 29	57	72.2	1.58	.....	.....	.....	.....	.....	.....
Hennepin	.....	.....	.....	.....	.....	.....	8	95	11	50	72.0	.....
Rochelle	23	96	12, 15	59	73.4	.....	12	97	29	50	74.0	.....
Wyanet	22	94	13	57	75.6	1.95	9	96	30	52	75.8	2.48
Tiskilwa	3, 23	94	13	54	72.6	.....	5, 8	92	30	48	72.5	.....
Elmira	2	93	13	60	75.3	1.77	.....	.....	.....	.....	.....	.....
Peoria	21	95	13	62	76.2	2.65	12	93	29	55	75.6	2.26
Springfield	25	98	12	56	75.2	.....	9	98	28	56	75.8	.....
Loami	24	98	29	62	77.1	1.55	17	99	29	58	77.5	2.50
Waterloo	24	98	13, 29, 30	70	83.2	.....	12	97	30	63	81.9	.....
Dubois	23	94	9, 30	57	76.4	5.55	9	97	30	58	78.5	2.60
Galesburg	2	89	12, 13	61	.....	.....	12	92	30	53	72.5	3.21
Manchester	24	95	30	63	76.8	2.83	12	97	30	61	77.4	2.50
Mt. Sterling	3	94	15	66	.....	.....	12, 18	96	29	62	80.2	.....
Andalusia	23	91	16, 18	57	75.5	.....	7, 8, 17	90	30	50	75.7	.....
Augusta	24	89	16	62	77.4	3.70	12	91	28, 29, 30	58	77.9	1.86
Averages	.....	.....	.....	.....	75.7	2.82	.....	.....	.....	.....	75.9	2.43
WISCONSIN.												
Manitowoc	22	93	12, 13	50	68.3	4.32	17	94	30	44	67.8	1.52
Plymouth	23	96	12	48	71.8	3.20	7	96	29, 30	45	71.0	3.30
Milwaukee	22	91	13	46	69.2	2.60	9	94	30	43	70.2	2.01
Do	22, 23	86	12	54	69.5	2.97	17	92	30	50	70.9	2.26
Geneva	23	93	8, 12	59	73.2	.....	8, 9	94	30	48	73.1	.....
Delavan	3, 23	87	12	50	70.2	2.33	8	92	30	47	70.4	2.00
Waupacca	22	91	8, 12, 13	60	73.0	.....	8	93	29	45	72.5	.....
Do	22, 23	94	12	53	69.8	7.10	17	93	30	44	70.3	2.70
Embarrass	20, 22	94	16	46	67.4	3.56	8	95	30	42	68.1	1.64
Rocky Run	23	92	12	56	71.1	4.39	.....	.....	.....	.....	.....	.....
Beloit	23	92	12	55	71.5	2.69	.....	.....	.....	.....	.....	.....
Edgerton	2	100	9	55	73.0	6.18	7	101	30	42	73.1	4.00
Baraboo	3	90	.....	.....	.....	.....	7	90	30	42	71.9	1.81
New Lisbon	23	98	8, 29	52	72.4	.....	.....	.....	.....	.....	.....	.....
Galesville	22	84	.....	.....	.....	.....	7	88	30	47	71.2	.....
Averages	.....	.....	.....	.....	70.8	3.93	.....	.....	.....	.....	70.9	2.36
MINNESOTA.												
Beaver Bay	27	88	18	51	65.2	7.15	6	85	31	41	66.7	3.34
Grand Portage	24	78	13, 17, 31	48	59.6	.....	.....	.....	.....	.....	.....	.....
Red Wing	3	91	8	53	70.8	4.54	21	98	29	50	74.1	3.08
St. Paul	10	83	6, 8	56	68.4	3.83	7	86	29, 30, 31	48	68.3	2.32
Minneapolis	3	84	6, 8	53	67.6	5.46	16, 21	85	31	48	70.0	2.73
Sibley	3, 26	92	28	56	71.1	5.12	7	94	28	46	71.3	0.00
New Ulm	3, 22	90	6	55	74.5	4.40	21	94	31	50	75.2	0.11
Averages	.....	.....	.....	.....	68.2	5.08	.....	.....	.....	.....	70.9	1.93

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	July, 1867.						August, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
IOWA.		°		°	°	*In.*		°		°	°	*In.*
Clinton	2, 22	95	13	60	75.3	2.00	7, 8	95	29	52	76.1	4.25
Davenport	24	90	13	60	71.3	5.44	9	90	30	56	74.5	2.80
Dubuque	2, 22	91	13, 16	58	73.8	4.86	16	91	30	49	74.3	2.28
Monticello		92	13, 16	59	71.9	4.30	17	92	30	48	71.9	3.37
Fort Madison	22, 27	93	20	61	75.1	2.59	12	99	29	54	77.2	2.44
Guttenberg	2, 22, 23, 26, 27	90	13	53	70.2	.....	7	96	30	42	69.3	.....
Ceres	23	95	16	50	74.1	.....	8, 16	94	30	44	75.5	.....
Mount Vernon	2	95	29	56	72.9	.....	7, 16, 17	91	28	49	72.1	.....
Iowa City	24	92	16	55	73.4	6.24	18	95	28, 29	50	74.7	4.45
Independence	23, 24	99	15	55	77.5	4.50	17	98	29	47	74.3	3.50
Do	27	91	15	59	73.1	3.70	15	96	29	50	71.4	2.20
Waterloo	24	92	16	50	71.6	.....	22	96	28, 29	50	74.0	.....
Marble Rock	2	88	7	58	70.9	.....	7	87	30	52	71.6	1.40
Iowa Falls	24	92	15, 20	58	70.3	4.30	.....	.....	.....	.....	.....	.....
Algona	2, 3	90	11	57	72.4	.....	6	92	27, 30	53	71.8	.....
Do	2, 3, 22	86	12	59	72.1	.....	16	90	28, 30	54	72.3	.....
Dakota	23	94	7	45	71.2	.....	16	92	28	44	70.7	.....
Fontanelle	10, 27	92	9	43	72.8	5.13	13	95	28, 30	58	74.4	7.75
Harris Grove	24	90	29	49	70.2	3.80	16, 17	90	28	48	72.5	2.00
Fort Dodge	24	93	12, 29	57	73.3	5.57	6, 18	92	29	52	73.4	2.05
Averages	.....	.....	.....	.....	72.7	4.37	.....	.....	.....	.....	73.3	3.21
MISSOURI.												
St. Louis University	3	92	16	65	78.8	2.47	12	95	30	63	79.2	1.49
Allenton	24	101	30	56	75.5	2.95	18	103	29	50	76.5	2.25
Canton	1	92	29	68	79.8	0.75	16, 17	94	29	62	78.0	0.35
Rolla	1	91	17, 30	55	73.4	6.62	12	95	22	51	73.5	1.25
Harrisonville	27	92	12, 15	62	74.7	7.40	10, 11, 25	92	28	60	75.7	2.80
Oregon	27	94	7	63	76.6	12.74	7, 11, 12, 20	92	28	60	77.5	2.95
Averages	.....	.....	.....	.....	76.5	5.49	.....	.....	.....	.....	76.7	1.85
KANSAS.												
Leavenworth	25	102	20	56	75.0	6.39	23	97	29	47	78.5	0.50
Olatha	1, 23, 24, 27	98	12, 15	60	76.6	6.70	9	98	28	59	78.2	2.80
Atchison	1, 27	100	7, 20	62	76.6	3.60	12	100	29	54	76.2	0.00
Holton	1	97	15	61	77.3	.....	6, 10	95	28	58	78.3	.....
State Agric. College	23	95	15	62	75.7	5.42	.....	.....	.....	.....	.....	.....
Council Grove	27	95	16	58	78.0	11.35	23	97	30	50	78.7	0.00
Baxter Springs	6	98	6,8,16,29	68	82.0	4.71	10	100	29	57	80.0	1.85
Averages	.....	.....	.....	.....	77.3	6.36	.....	.....	.....	.....	78.3	1.03
NEBRASKA.												
Elkhorn	23	95	7	58	73.7	.....	17	96	28	53	74.1	.....
De Soto	24	95	7	56	75.2	3.50	17	101	28	57	74.7	1.39
Glendale	9	96	12	57	75.3	4.70	17	97	28	56	75.1	1.70
Averages	.....	.....	.....	.....	74.7	4.10	.....	.....	.....	.....	74.6	1.55

Table showing the range of the thermometer, &c., for July and August—Cont'd.

States and places.	JULY, 1867.						AUGUST, 1867.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain.
UTAH TERRITORY.		°		°	°	*In.*		°		°	°	*In.*
Gt. Salt L. City	1	91	17, 18, 19	60	72.2	2.61	1, 2, 17, 18, 20	90	17, 31	66	77.0	0.94
Wanship		97	17	50	73.2	.....	.....	.....	.....	.....	.....	.....
Averages	.....	.....	.....	.....	72.7	2.61	.....	.....	.....	.....	77.0	0.94
CALIFORNIA.												
San Francisco	30	103	25	64	82.1	0.00	.....	.....	.....	.....	.....	.....
Monterey	7	93	10, 18, 27	49	.....	0.00	.....	.....	.....	.....	.....	.....
Averages	.....	.....	.....	.....	82.1	0.00	.....	.....	.....	.....	.....	.....
OREGON.												
Albany	31	101	23	52	69.0	0.36	.....	.....	.....	.....	.....	.....
Corvallis	7, 11	88	23	50	.....	.....	.....	.....	.....	.....	.....	.....

NOTES OF THE WEATHER, JULY, 1867.

FROM THE SMITHSONIAN INSTITUTION.

Gardiner, Maine.—The mean temperature of July was two and a half degrees below the average of the month for thirty-one years, and the amount of rain was three-eighths of an inch more than the average for twenty-nine years.

Steuben, Maine.—Rain from July 19 to the 23d—a long and cold rain for the season.

Cornish, Maine.—July 18, 1867.—Crops begin to suffer for rain. 19th to 21st, heavy rain.

Williamsburg, Maine.—July 3.—Heavy thunder shower at 5 p. m., with strong wind; a few miles east some trees were uprooted, and several barns and other buildings moved from their foundations, and one unroofed. 15th.—Haying commenced to-day by farmers generally; a few began several days earlier.

Standish, Maine.—July 5.—Cranberries in bloom. 29th, corn began to silk.

Lisbon, Maine.—July 18.—A northeast storm began at 1 p. m. on the 18th, and continued till the 22d at 10 p. m. It came on very suddenly; apparently a very light shower from the east about noon, which came up almost instantly, changing rapidly into a settled northeast storm.

North Barnstead, N. H.—The rain storm commencing on the 18th came very unexpectedly, and caught out a large amount of well made hay, which could not be dried and housed until the 23d.

Claremont, N. H.—July 4.—Violent storm of wind about noon, with some thunder and lightning and a moderate fall of rain. 31.—The month has been on the whole exceedingly propitious.

Randolph, Vt.—July 3.—Herds-grass begins to blossom. 9th, wild raspberries begin to ripen. 26th, corn generally silked out; rye fit to cut.

Craftsbury, Vt.—July has been colder than June; a slight frost was noticed upon some of the low lands on the night of the 13th.

Barnet, Vt.—July 31.—There have been no storms to wet the ground very deep for some time, and it is getting quite dry. The small streams have dried up, as well as many of the springs.

North Billerica, Mass.—Rains plentiful, and streams flowing bountifully this month.

Lunenburg, Mass.—The past July was the coldest since 1860.

New Bedford, Mass.—July 13.—A continued pouring rain from 9 o'clock last night till 7 this morning. This set the brooks running again, many of which before were almost dry. 19th, a very hard rain from 4¼ p. m. to 5 p. m. During one part of the storm, for about ten minutes, the rain came in floods. At Myricksville, a station on the railroad fourteen miles distant, no rain fell.

Richmond, Mass.—July 4.—A heavy thunder shower set in at 1.20 p. m.; the wind blew a hurricane from northwest for twenty minutes, and the rain fell in torrents. 31.—The month has been cool, with much damp weather.

Milton, Mass.—July has been cool, with an abundance of rain. Rain fell on twelve days during the month.

Georgetown, Mass.—July 22.—The rains of the past few days have raised ponds, brooks, and wells. Ponds in this vicinity are nearly up to spring high-water mark. 31.—The month closes with ponds at high-water mark. There is generally a freshness and color in pastures and mowed fields, more like May than July. There has been but little thunder and lightning, though much sultry weather.

Newport, R. I.—July 25.—Thunder storm from 12.30 to 2 p. m. The lightning struck the mast of a brig lying in the harbor.

Middletown, Conn.—July 25.—Shower, with much thunder and lightning, from

12.30 to 1.30 p. m. High wind for a few minutes, throwing down the tops of some chimneys and many trees. Lightning struck the cupola of the Baptist church.

Pomfret, Conn.—Thunder storms on the 4th, 12th, and 25th, p. m., each ending in cold northeasters of several days duration. The temperature has been below the mean of the month for the last fourteen years; so have all the months of the vegetative season been, excepting April, which was about the average.

Cazenovia, N. Y.—July 4.—A tornado occurred about 11 p. m.; width half a mile. It came from Onondaga county, passed through the south part of the town of Cazenovia, and onward in a southeasterly direction.

North Hammond, N. Y.—July 24.—At 5 p. m. a wind, uprooting trees and doing much damage generally; a pouring rain; hail-stones as large as hickory nuts; duration, 45 minutes; thunder heavy and lightning sharp; cloud moving in a southeast direction.

Buffalo. N. Y.—The weather during July was quite favorable for securing the crop of hay, which in this section is the largest ever grown.

Rochester, N. Y.—The mean temperature of the month was 1.3° below the general average for July.

Theresa, N. Y.—July 24.—Nearly incessant thunder from 5 to 7 p. m., passing from northwest to southeast; wind high for half an hour.

Depauville, N. Y.—July was remarkable for its very cool nights. On several mornings the thermometer stood below 54°, and on the morning of the 14th as low as 48°.

Garrison's, N. Y.—The weather through the month has been cool and wet in its average character. The farmers are almost through with their hay crop, but owing to frequent rains much has been injured.

Nichols, N. Y.—The end of the month is dry and cold; vegetation much injured. On the 31st, at 5 a. m., thermometer 42°.

Minaville, N. Y.—July has been remarkably dry; very little rain during the month.

Friendship, N. Y.—The general characteristics of the month were dryness, clearness, and more than average warmth.

Burlington, N. J.—Rain fell on seventeen days in July.

Newark, N. J.—The mean temperature of July was 2.33° below the average of the month for twenty-four years, and was lower than every July during that period except 1859 and 1860. The rains fell principally in showers, and were distributed through the whole month, having fallen on seventeen days; but although the falls were more frequent than usual, the total amount was about the average for July.

Grampian Hills, Penn.—During the month there was a good portion of clear and fine weather for harvesting, with frequent showers, which kept vegetation in good growing condition.

Fallsington, Penn.—July 31.—The month has been unusually cool and wet.

Montgomery, Penn.—The average temperature of the month was low; very little warm weather; some quite cool; not many heavy rains, but much damp, dull weather.

Dyberry, Penn.—Rain fell on twelve days in the month, and haying and rye harvest are backward and slow.

Tioga, Penn.—July 20.—Up to this time the month (especially the nights) has been unusually cold, and being pretty dry, spring crops grow slowly. 31.—Still very dry; corn, oats, and potatoes on the upland drying up.

Hewlett's, Va.—The month has been uncommonly cool, with very little rain.

Mount Solon, Va.—July 11.—Wheat harvest about closed. It usually commences from ten days to two weeks earlier east of the Blue Ridge than in the valley counties, and about two weeks later in the counties west of the valley; but this year the harvest was general almost throughout the State, owing to the

cool weather in the spring lasting longer east of the valley than in the valley and counties lying west of it.

Oxford, N. C.—July 31.—The corn is needing rain very much.

Statesville, N. C.—No rain during the month except a few light showers, amounting in all to only a quarter of an inch.

Attaway Hill, N. C.—July 26.—After eight days of parching heat, which has almost ruined the corn crop on upland, thunder-clouds from the southwest brought a few refreshing showers, and with them a revival of hope to make bread.

Wilkinsville, S. C.—July 15.—Early peaches ripe.

Gordon, Fla.—The month has been very rainy; planters say the worst for fifteen years.

Moulton, Ala.—During the month there were ten rainy days, and every day was more or less cloudy, affording the most favorable circumstances for the growth of corn, just at the season for the maturing of the ears; and corn crops were never better in this part of the country.

Fish River, Ala.—July was sultry, with a great deal of lightning and squalls, which came from every point of the compass, but there were no severe ones.

Waco, Texas.—July 31.—A great deal of cloudy weather during the month, but no rain after the first day, except two showers, and everything is drying up.

Columbia, Texas.—July 31.—A very wet month; showers nearly every day since June 26, though often too little to measure.

Clarksville, Tenn.—Rain fell on fourteen days of the month. The heaviest was on the 19th, when more than an inch fell from 5.30 p. m. to 9.15 p. m.

Franklin, Tenn.—The first cotton bloom seen in this part of the country was on the 2d of July.

Toledo, Ohio.—The mean temperature of the month was somewhat below the average for July, though there was much continuous and apparently excessive heat; but in the middle and at the end of the month there were some days of low temperature, which reduced the mean. The amount of rain was about half the average, which made it unusually dry, but a better month for collecting the harvest the farmer seldom ever has in this section.

Northport, Mich.—July has been one of the most growing months ever known here; everything has moved forward with great speed.

Lansing, Mich.—Slight frost in the night of July 12; an occasional leaf of corn was blackened, and a few cucumber plants in low places frozen. At 9 p. m. the thermometer was 52°, the sky clear, and no wind. No rain between the 8th and 15th.

Aurora, Indiana.—Constant rain through the night of the 11th, beginning at 7 p. m. and continuing till 9 next morning, amounting to an inch and two-tenths.

Richmond, Indiana.—Very heavy rain on the night of July 2 from 10½ till near midnight, with much lightning; amount of rain, three and a quarter inches. About seven miles to the southwest there was a large amount of hail, which was very destructive.

Vevay, Indiana.—On the night of the 29th the thermometer indicated 82° at 6 p. m., and 62° at 9 p. m., a fall of 20° in three hours.

Mount Sterling, Illinois.—The wheat harvest commenced on the 9th, and the weather for three weeks following could not have been more favorable.

Chicago, Illinois.—July 3.—Heavy gale of wind at 3 p. m., tearing up trees in different parts of the city. 31st, small hail-stones fell during rain shower at 3 p. m. for two minutes.

Chicago, Ill.—July 31.—A destructive storm of rain and hail, beginning at 3 p. m., the rain continuing about an hour, and the hail fifteen minutes; the violence of the storm extending about one mile south and north of the residence of the observer, which is six miles south of Chicago, or one mile from the

city limits; many of the stones were an inch in diameter, and great damage was done to fruits, vegetables, and green-houses; the east front of green-houses escaped. No thunder or lightning, nor violent wind, accompanied the storm, nor was the thermometer much affected.

Winnebago, Illinois.—July 31.—Local showers, with thunder in afternoon and evening; apparently but little rain at any point.

Oregon, Missouri.—July 1.—Farm and garden produce much injured by grasshoppers. 2d, Missouri river rising and overflowing the bottom. 4th, fruit and ornamental trees damaged by storm. 8th, Missouri river falling; harvest commenced about two weeks later than usual. 26th.—Mill creek, passing three-quarters of a mile southeast of Oregon, higher this afternoon than it is remembered ever to have been before.

New Lisbon, Wisconsin.—In the night of the 2d heavy thunder, lightning, and rain, and on the morning of the 3d severe wind and torrents of rain.

Waupacca, Wisconsin.—Heavy gale, almost a hurricane, at noon of the 2d, lasting half an hour; nine clear days and fourteen rainy days during the month.

Embarrass, Wisconsin.—July 2.—Thunder-storm from northwest from 11.30 a. m. to 1.20 p. m.; rain fell in torrents for a short time; wind very high, snapping off trees three or four feet in diameter. 9th, very light frost; it did no damage. 28th.—Very hard thunder-storm last night from southwest; the rain part of the storm passed to the west-northwest of this place, where it did much damage to grain, especially rye, which was badly lodged.

Milwaukee, Wisconsin.—July 2.—A violent hail-storm at the south end of the city, but not at the station occupied by the observer. 31st.—A water-spout seen on the lake this morning from north point of Milwaukee bay; at $9\frac{1}{4}$ p. m. a heavy thunder-storm.

Plymouth, Wisconsin.—July 2.—Thunder-storm from northwest and north, commencing with a violent gale from north, doing much damage to trees, fences and buildings; some hail-stones fell southeast from here as large as small hen's eggs. 13th.—Early in the morning quite a severe frost, injuring corn in low places. 31st.—Crops are all suffering by the drought.

Minneapolis, Minnesota.—July 20, 21, 22.—Great flood in the Mississippi, caused by heavy rains in the northern part of the State. The water rose to a higher point than has been reached since 1850, destroying a large amount of property in the shape of mills, bridges, dams, booms, and logs.

St. Paul, Minnesota.—The observer says: "A very heavy rain-storm prevailed on the 18th and 19th between Crow Wing and Sauk Centre, in the northern part of the State, depositing from thirty to forty inches of water. This is given upon the best authority."

[Other correspondents have sent us accounts of this extraordinary rain. All who can obtain any correct data with regard to its amount and extent are requested to furnish them to the Smithsonian Institution.]

Beaver Bay, Minnesota.—July 22.—Water in Lake Superior fourteen inches higher than on April 30. 1864.

Independence, Iowa.—July 24.—Thunder-storm in afternoon and evening. Ten miles northwest this storm assumed the form of a tornado a fourth of a mile wide, moving from northwest to southeast, partially destroying three log-houses and doing other damage.

Clinton, Iowa.—The weather during July was very fine; getting to be very dry towards the end of the month.

Algona, Iowa.—July has been a remarkable growing month. Crops of all kinds promise the largest yield ever known in this State. Barley is cut, and in some instances threshed; wheat will be ready for the reaper in six to ten days; corn stands shoulder-high, very heavy.

Fort Madison, Iowa.—July 31.—Very dry; corn small and backward; wet spring caused late planting.

Glendale, Nebraska.—The nights during this month have been remarkably cool, and often cold, but as the thermometer has fallen but little previous to 9 p. m., and has risen rapidly after sunrise, the depression shows but little in the recorded temperature.

Elkhorn City, Nebraska.—July 31.—Some wheat and oats have been cut, but there is an unusual difference in ripening, and much will not be fit to cut for a week or more; the promise is good for a large yield of both; corn is still backward, and will require a long season to make a good crop. The month is below the average temperature.

Cathlamet, Washington Territory.—A correspondent writes that this has been the rainiest July he has known during a residence of sixteen years on that coast.

Great Salt Lake City, Utah.—The season has been very fine for farming, but on the last day of the month the grasshoppers came by millions.

Wanship, Utah.—July 31.—First appearance of a cloud of grasshoppers over Wanship; they have destroyed half of the grain in Cache valley, and all the fruit and a great amount of grain in Davis county. They are swarming on the lower part of Weber river.

Marsh Ranch, California.—The only rain which fell during July was a few drops on the 30th, between 5 and 6 a. m.; it was accompanied with thunder and lightning.

NOTES OF THE WEATHER, AUGUST, 1867.

The tables for August show extraordinary rains near the Atlantic coast, while the interior suffered from drought. In the following notes brief extracts have been made from some of the registers to show the date and amount of a few of the principal falls of rain. It will also be seen that an extensive frost occurred at the end of the month. All the references made to it on the registers are embraced in these notes. No other frost is mentioned by any of the observers.

Gardiner, Maine.—The mean temperature of August, this year, was about one degree above the average of the month for thirty-one years. The average rain fall for the month for twenty-nine years is 4.09 inches, this year 8.49 inches, or a little more than double. The largest amount in any August previously recorded was 7.49 inches in 1856.

Cornish, Maine.—The mean temperature of the month was nearly five and a half degrees above the average of August for thirty-five years. The amount of rain was the largest ever recorded at this place in August.

Lisbon, Maine.—Four inches of rain fell from 7 a. m. of the 16th to 7 a. m. of the 17th. This storm caused a great amount of damage to roads, bridges, and railroads. At the deep cut, five miles from here, the railroad was washed eighty feet in length and thirty feet deep, no cars crossing again until the 21st.

Antrim, N. H.—The rain storm on the 16th is said to have been the heaviest that has occurred here at this season of the year for forty years.

North Barnstead, N. H.—More rain fell during August than in any month since the observer has kept a record, a period of ninety-two months.

Stratford, N. H.—August 31.—Frost in low places this morning, doing but little damage.

Claremont, N. H.—August 31.—Slight frost this morning, the first of the season; no harm done, unless to tender crops in exposed places.

Craftsbury, Vermont.—A slight frost on the night of the 30th, affecting vegetables on the low lands.

Middlebury, Vermont.—August 31.—Slight frost this morning.

Williamstown, Mass.—August 31.—Slight frost in places.

Worcester, Mass.—Heavy rain from 14th to 17th, in all 4.81 inches, the largest amount ever registered here in a single storm; the record has been kept twenty-five years. The total amount for the month was greater than for any previous month since August, 1856.

Lunenburg, Mass.—More rain fell during this month than in any month for twenty years.

West Newton, Mass.—August 31.—Slight frost in low lands; no damage.

Richmond, Mass.—The storm of the 15th and 16th caused a flooding of low meadows, and roads were badly washed. Frost is reported on low lands on the 31st, but not enough to do damage.

Kingston, Mass.—August 4.—The unusual phenomenon of an August freshet is witnessed to-day. The water is not often any higher in the river in the spring than it is now.

Newport, R. I.—Three inches and six-tenths of rain fell on the 2d of August from 2 a. m. to 6 p. m.; this was more than fell during all the rest of the month together.

Columbia, Conn.—The month has been remarkable for the great quantity of rain, and for the number of unpleasant days, making it almost impossible to cut and secure the crop of hay.

Middletown, Conn.—The fall of rain during the month was more than double the average of August for nine years, including the present.

Garrison's, N. Y.—There has been a great amount of wet and overcast weather during the month, and the amount of rain is almost unprecedented.

Depauville, N. Y.—The month was remarkable for its calm and cloudless weather. On twenty-five days the wind was from the south or southwest. There was a long drought; no rain of importance fell during the month, except the 13th. A few occasional showers of short duration have kept the earth from totally parching

Nichols, N. Y.—Drought severe up to the 13th; at the end of the month the grass as green as in June.

Palermo, N. Y.—This has been a very dry month, and vegetation has suffered for want of rain. There was a violent tornado 12 miles southwest of here at 3.30 p. m. on the 14th.

Minaville, N. Y.—August 31.—First frost last night.

Rochester, N. Y.—August has been exceedingly dry, no rain of any consequence having fallen between the 25th of July and the 28th of this month. With so little water-fall the drought would have been very afflictive if the temperature had ranged only a little higher. The August in which the least rain has fallen in thirty-one years was in 1843, when seven-tenths of an inch fell, which was only two-hundredths of an inch less than in this month. The greatest amount of rain in any month in thirty-one years was 6.83 inches in September, 1853.

Buffalo, N. Y.—August 31.—The drought in this vicinity is unusually severe. Pasture lands are parched and brown, and farmers in some of the adjoining towns are feeding their stock with hay.

Newark, N. J.—The mean temperature of August was thirteen-hundredths of a degree below the average of the month for twenty-five years. The quantity of rain was more than in any August during the same period, except in 1843 and 1853. Two and a half inches fell on the 9th, from 9 a.m. to 4 p.m.; the heaviest fall was from 12 m. to 3 p. m. in the northern suburbs, but not extending two or three miles north. The Morris canal broke its banks and overflowed a portion of the water-works.

Greenwich, N. J.—The rain on the 9th was less than two-tenths of an inch. On the 15th, with some showers on the 16th, four inches fell, being the heaviest rain that has occurred here for twenty or thirty years.

Seaville, N. J.—Two inches and two-tenths rain fell on the 6th, and two inches and four-tenths on the 16th.

Nyces, Penn.—August 31.—White frost last night in a few places; no damage done.

Fallsington, Penn—This August, also the three summer months, have been the wettest of which the observer has any record.

Philadelphia, Penn.—It rained in appreciable quantities on fifteen days, and the amount was 16.84 inches, while the average for the month for seventeen years, including this month, is only 4.52. The large quantity of rain that fell on the 15th caused a great freshet in both the Delaware and Schuylkill rivers, doing considerable damage. At 2 o'clock in the afternoon the water was 7 feet 4 inches above the dam at Fairmount. In August, 1860, $9\frac{1}{4}$ inches of rain fell, and that was the nearest approach to the present month during the seventeen years observed.

Dyberry, Penn.—This month has been unusually wet, damaging much hay and causing potatoes to rot badly.

North Whitehall, Penn.—This August has been wetter than any that the oldest inhabitants recollect.

Tioga, Penn.—August 31.—Since the 18th the weather has been very favorable for farm work, but cool nights; corn does not come forward very fast. This morning at 5 o'clock the mercury was at 40°, and there was quite a frost in some places, injuring corn and buckwheat a little.

Pennsville, Penn.—There were frequent showers during the month, but no heavy rains or floods. Crops mostly gathered in, except corn and buckwheat, which are both well grown. Corn mostly late, owing to the wet in April and May.

New Castle, Penn.—August 31.—White frost; heavy in some localities; killed tender vegetation.

Woodlawn, Md.—Very heavy rains have fallen during the month. On the 1st and 2d two and a quarter inches fell, and on the 13th to the 17th six and a half inches. Fields and roads have been washed very badly, and great injury has been done to property in the valleys of streams.

Annapolis, Md.—August was characterized by heavy rains, the quantity greater than ever before recorded by the observer. On the 10th an inch and fifty-five hundredths fell in half an hour, from 4.35 p. m. to 5.05 p. m.

Emmittsburg, Md.—Rained on fifteen days during the month. On the 16th, at 4 a. m., there was a storm, blowing down trees; wind from the north. Frost in the neighborhood on the 31st, but none visible here.

Catonsville, Md.—The heavy rains of the 14th and 15th raised the waters of Gwynne's Fall, between Baltimore and Catonsville, so high as to carry off all the bridges except the Baltimore and Ohio railroad viaduct. The same took place October 10, 1866, previous to which the like had not occurred within the memory of the observer.

Cape Charles light-house, Va.—Nearly two inches and three-quarters of rain fell on the first three days of August, and an inch on the 28th. These were the heaviest, only a little more than an inch and a third falling during the rest of the month.

Lynchburg, Va.—From a rough measurement without a gauge the observer estimates the rain of the 15th to have amounted to about an inch and a half. No heavy rain occurred during the month.

Romney, West Va.—August 28, the hardest rain of the season, with violent wind, and hail as large as birds' eggs.

Raleigh, N. C.—Three and one-tenth inches of rain fell during the night of the 2d, and one inch and two-tenths on the 14th and 15th, which were the two largest rains in the month.

Albemarle, N. C.—The rain during the night of the 2d amounted to three

inches and a tenth, and on the 14th and 15th to five inches. This last rain fell in sixteen hours, and the observer says it was "a god-send to the generally suffering crops, though some damage was done by suddenly-swelled water-courses."

Goldsboro', N. C.—August 9.—A storm in the middle of the day, accompanied with very heavy thunder and vivid lightning. The wind arose almost to a gale. Five and a quarter inches of rain are recorded as having fallen in two hours and three-quarters.

Aiken, S. C.—The largest rain in the month was on the 14th—four inches and a third.

Jacksonville, Florida.—On the 27th of August eight-tenths of an inch of rain fell in fifteen minutes.

Fish River, Ala.—The amount of rain during the month was very large. On three days (the 1st, 27th, and 29th) two inches fell, and on three days (the 11th, 18th, and 24th) an inch and a half. It rained on sixteen days, and there was not one entirely clear day during the month. The squalls came in every direction, very often two meeting. Old citizens call them "coast rains."

Greene Springs, Ala.—Cotton crop somewhat injured by want of rain early in the month; the whole month unusually dry for August. Rain fell on eight days; the largest amount was sixty-three hundredths of an inch, on the 20th.

Grenada, Miss.—Only three rains recorded during the month, viz: "light" on the 19th, "copious" on the 20th, and "moderate" on the 28th.

Clarksville, Tenn.—The largest rain during the month was forty-five hundredths of an inch, on the 20th.

Louisville, Ky.—Rain fell on six days during the month; the greatest amount was seventy-three hundredths of an inch, on the 21st; only one other exceeded a quarter of an inch.

Chilesburg, Ky.—August 31.—From the drought, the grass is quite short and dried; the corn crop will be short in many neighborhoods. Rain fell on eleven days, but on six of these there was not enough to measure; the largest amount was half an inch, on the 24th.

Urbana, Ohio.—The mean temperature of this month is 1.95° above the average of August for sixteen years. There was frost on the morning of the 30th, but so slight as to do little or no damage; the thermometer on that day was 44° at sunrise. The quantity of rain during the month is 1.60 inch less than the average for sixteen years. The degree of cloudiness is thirty per cent. below the average for the same period, and less than in any year except 1854. The wind also is thirty per cent. below the average.

Kelley's Island, Ohio.—During the entire month of August, up to 6 p. m. of the 31st, the amount of rain has been but fourteen-hundredths of an inch, which fell on the 24th. There were one or two other light showers, but not enough to lay the dust, and there has been scarcely any dew. Vegetation is suffering severely from drought, and pastures are as dry and the grass as destitute of color as in January.

New Lisbon, Ohio.—White frost on the morning of the 31st; no damage.

Bowling Green, Ohio.—August 30.—Thermometer at 5 a. m. 36°. White frost was seen in many places.

Norwalk, Ohio.—The drought is greater than in any year since 1854; pastures are dried up, and there is much corn that will not ripen.

Litchfield, Mich.—August 30.—The ground is white with frost in many places this morning, but there is no injury to crops except on cultivated marshes; the corn and buckwheat are badly injured on them.

Otsego, Mich.—August 30.—Had a frost last night that nipped corn in some low spots.

Monroe, Mich.—August 30.—Light white frost in some places in the city; no perceptible effect on plants. Vines were killed fifteen or twenty miles back in the country, but no particular damage to crops.

Aurora, Ind.—August 31.—Corn and potatoes are suffering for want of rain; pastures look dry and the leaves of plants withered.

Muncie, Ind.—August 7.—A large quantity of hail fell with the rain, between 4 and 5 p. m. Its path was about a mile in width. 30th.—A very light frost; no damage.

Indianapolis, Ind.—August 8.—Violent gale at 2 p. m. Several large trees were blown down, and some two feet in diameter were broken off at a considerable distance above the ground. Hailstones fell of large size.

Richmond, Ind.—August 30.—A very light frost is reported in some places.

Vevay, Ind.—August 1.—Violent rain and thunder-storm from the west from 4 to 4.30 a. m. 2d.—Severe rain-storm from the west from 2 to 4.30 p. m., preceded by a violent gale, which scattered trees, branches, chimneys, &c., in all directions, while the streets from curb to curb were under water; one inch of rain fell. 8th.—Strong gale and rain-storm in the afternoon; trees were blown down. 19th.—At 3 p. m. a hurricane from the southwest, but separated near here, partly moving east and northeast; five miles above here both clouds united again, and following the course of the Ohio river eight miles above here, near Warsaw, Kentucky, a steamer encountered the storm, and was near being destroyed.

Springfield, Ill.—August has been one of the dryest months on record. The ground is cracked in the largest, deepest fissures seen for many years. No rain since the first day of the month till the last, except very slight showers, hardly sufficient to lay the dust. Stock have suffered severely for want of water.

Dubois, Ill.—Excessive drought during the first half of the month. An inch and a half of rain fell on the 19th.

Tiskilwa, Ill.—On the last day of August it rained two hours, wetting the ground the best since the 10th of June. Pastures have become very short, no after-feed springing up on the meadows except clover.

Mount Sterling, Ill.—August 31.—There has been no rain that has moistened more than the surface of the ground since the 4th of July.

Aurora, Ill.—The month has been unusually dry, and very little thunder and lightning. Fox river is not remembered to have ever been so low; for two weeks the channel has been nearly dry.

Oregon, Missouri.—From the 1st to the 23d of August the weather was generally dry and hot. Corn began to show the effect of the drought, but the succeeding rains have restored vegetation.

Manitowoc, Wis.—August 30.—Temperature 39° at sunrise; frost on low places back from the lake.

Plymouth, Wis.—August 31.—The dry weather which has prevailed during the spring and summer still continues, and corn and potatoes are suffering from the drought. At sunrise on the 30th the thermometer was down to 30°, with light frost on low places.

Waupacca, Wis.—Slight frost in the night of the 29th in low places; no damage; thermometer 32° at 5 a. m.

Baraboo, Wis.—Slight frosts on the 29th, 30th, and 31st.

Bloomfield, Wis.—August 29.—This night occurred the first frost, killing melon vines on low grounds.

Embarrass, Wis.—August 30.—First frost this morning, nipping vines, &c.; farmers had cut their corn mostly; potatoes injured some. Not much damage done in this locality.

Minneapolis, Minn.—A slight frost in the night of the 28th.

Red Wing, Minn.—August 28, 29, 30, 31.—Frost at night, killing vines and tender vegetation.

New Ulm, Minn.—A little frost on the night of the 31st.

Dubuque, Iowa.—August 30.—Very heavy dew and slight white frost last night.

Iowa City, Iowa.—Only a quarter of an inch of rain in August, preceding the 26th.

Independence, Iowa.—The month has been very hot and dry, and there were strong apprehensions here that corn would prove a failure, but the rain in the night of the 30th has saved it. This rain measured an inch and four-tenths, while there were only eight-tenths during all the rest of the month.

Marble Rock, Iowa.—August 30.—Thermometer, at 5 a. m., 42°. The house of the observer is on a high, dry ridge; the garden to the north sinks about eighteen feet in about twenty-two rods, and that is sheltered on the north. There the frost always shows itself first, and at sunrise this morning it was quite white. On a water-trough close by, ice just showed itself.

Clinton, Iowa.—Only three-quarters of an inch of rain fell in August, until the 26th; after this, three and a half inches.

Guttenberg, Iowa.—The observer says: "This month has been the finest ever sent to mankind for the harvest."

Monticello, Iowa.—"There were but two rainy days this month, and two days entirely clear. Have never seen better weather for harvesting."

Fort Madison, Iowa.—This has been the warmest August since 1854. The month has been very dry, and wells have failed.

Council Grove, Kansas.—Not a drop of rain during the month.

Atchison, Kansas.—A few drops of rain on the 25th and 31st, but not enough to measure.

Holton, Kansas.—No rain during the month to wet the ground; it drizzled a little several times. The ground seems to be as dry as in 1860, the year of the great drought.

De Soto, Nebraska.—August 29.—Invasion of grasshoppers, looking like a snow-storm. They show a preference for corn and potatoes.

Glendale, Nebraska.—August 24.—Very dry; farms and gardens suffering much for want of rain. 31st.—Grasshoppers or locusts now at work on the corn-fields; the blades and tops mostly gone; many stalks, three-fourths of an inch in diameter, cut off, and many ears, just glazing, eaten down, cob and corn, from one to two inches.

Richland, Nebraska.—August 27.—At noon large numbers of locusts appeared, and continued to come from the northwest until the evening of the 29th. They still (August 31) remain, and it is probable that the corn will be almost or entirely lost.

Great Salt Lake City, Utah.—Light rains or showers on the 10th, 11th, 14th, and 29th.